Tutorial 2: Designing and Implementing an Effective Virtual Reality Trainer

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Abstract

This half-day tutorial intends to synthesize, at a level of understanding suitable for both introductory and intermediate levels of experience, the many disparate issues involved in producing an effective VR training device. Individuals completing this workshop will gain an understanding of the breadth and depth of processes involved with the successful creation of effective VR-based training.

Topics to be covered include:

1. Multidisciplinary collaboration: the need for dialogue between engineers, computer scientists/programmers and psychologists is imperative to successful design and implementation.

2. VR training assets: an overview of the advantages that VR trainers offer the training community, over traditional Legacy-type trainers.

3. Requirements: how the requirements for a specific type of VR trainer are determined, assessed, and addressed.

4. Training issues in VR content areas: 
   a) HCI/Multisensory issues  
   b) VE-based knowledge extraction  
   c) Automated instructional approaches to training  
   d) Collaborative/interactive VR  
   e) Novel VR training interventions

5. Training effectiveness evaluation: methods for validating the efficacy of training delivered in VR trainers.

6. Examples: discussion of these processes at work that have lead to finished products and current work on developing simulation techniques that resemble direct, natural interaction of a person with the real world.