Ad hoc Allocentric XR-Based Team Training with Human-in-the-Loop Avatars and Aware/Influential Agents

Greg WELCH
Professor and AdventHealth Endowed Chair in Simulation

The University of Central Florida
College of Nursing, Academic Health Sciences Center
Computer Science, College of Engineering and Computer Science
Co-Director Synthetic Reality Lab, Institute for Simulation & Training

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Bibliography

Barbara Lee
Assistant to Prof. Welch

Gerd Bruder
Laura Gonzalez
Juan Cendan
Mindi Anderson

Jeremy Bailenson
Ben Lok

Salam Daher, Austin Erickson, Jason Hochreiter, Jonathan Jules, Kangsoo Kim, Alexis Lambert, Myungho Lee, Nahal Norouzi, and Ryan Schubert.

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Barbara Lee
Assistant to Prof. Welch
Medical Mannequins
Physical Shape and Virtual Physiology

Laerdal
SimMan® 3G
SimMom™

CAE Healthcare
BabySim
PediaSim

METIman

Fidelis

SimBaby™

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Mannequins are...mannequins
Physical-Virtual Patient


Upper/Lower Interchangeable Human-Shaped Rear-Projection “Shells”

- Projectors
- IR Cameras & Lights
- HVAC
- TECHTILE toolkits
- Mirror (folded optics)

- Rear-projection imagery of patient
- Touch Sensing
- Body Temperature
- Pulse, heart, etc.
Pediatric Version

UCF Nursing: Laura Gonzalez, PhD, ARNP; Mindi Anderson, PhD, ARNP and Desiree Diaz, PhD, RN-BC. UCF Medicine: Juan Cendan, MD.
Trauma Team Training
TeachLive—A “Flight Simulator” for Teachers
(Dieker, Hynes, Hughes, et al.)
Geppetto: An environment for the efficient control and transmission of digital puppetry (Mapes, Tonner, and Hughes 2011)
VR-Based Team Training with Human-in-the-Loop Avatars

Communication Skills Observer

Trainee in Head-Worn Display

Virtual Multi-Patient Trauma Scene

Character Inhabiter and Scenario Controller

Behavior and Biometrics
Aware/Influential Avatars

Adapt to emotion, frustration, performance, ...
Ad hoc Allocentric XR-Based Team Training with Human-in-the-Loop Avatars and Aware/Influential Agents
Simulation Resources—Physical to Virtual

- Medical “simulation” (training) is huge and growing
- Steering Committee for AdventHealth Simulation Center
- Major effort to catalog all available simulation resources
  - Inventory of mannequins, equipment, rooms
  - People (trainers, SMEs, actors/standardized patients)
  - Scenarios...

**Inventory** should encompass real and virtual

**Scenario design** should encompass real and virtual

(End)