TC3 Haptics Multi-Modal Testbed

Delivering Highly Realistic Military Medical Training with Haptic Technology

ECS is extending the legacy of over fifteen years of serious games research and development in the Tactical Combat Casualty Care Simulation (TC3Sim). This research and development testbed now includes the use of high-fidelity haptics in immersive simulations. By providing enhanced Tactical Combat Casualty Care (TC3) military medical training in a variety of virtual reality (VR), augmented reality (AR), and mixed reality (MR) simulations with haptic feedback, TC3Sim delivers a more comprehensive training experience with a realistic sense of touch and intuitive interactions.

The ECS team developed multiple extended reality (XR) training scenarios that utilize haptics technology across a range of skill training objectives and multiple hardware platforms. TC3Sim uses these story-driven scenarios to teach and evaluate a combat medic's knowledge of the required tactics, techniques, and procedures in a fully immersive virtual environment. Through the addition of haptics, Medics, Soldiers, First Responders, and healthcare professionals can now interact with and feel the virtual environment. Trainees can now shift their perspective from the typical VR experience of clicking a button on a controller to interacting with a more natural approach of physically grasping an object or reaching out and touching a casualty with their hand. Trainees can bandage a wound, apply a tourniquet, and perform other highly tactile procedures while immediately feeling the surface, pressure, or resistance of their interactions. This transformational use of XR enhances the performance of medical teams while also improving their quality of training.

ECS has enhanced TC3Sim by integrating enhanced military medical VR training into TC3Sim in order to deliver a more comprehensive trainer with a realistic sense of touch and interaction. By using haptics gloves and a headset in VR, users experience virtual simulations with realistic touch and natural interactions in order to undergo more fluid and complete combat medic training scenarios with an enhanced realism and immersion.

11825 High Tech Ave., Ste 250, Orlando, FL 32817
407-823-9991 ext. 1005 | info@ecsorl.com | www.ecsorl.com