ADVANCED HAPTICS DEVELOPMENT TO SUPPORT MEDICAL SIMULATED TRAINING ENVIRONMENTS

IMPROVING PERFORMANCE AND TRAINING EFFECTIVENESS WITH HAPTICS

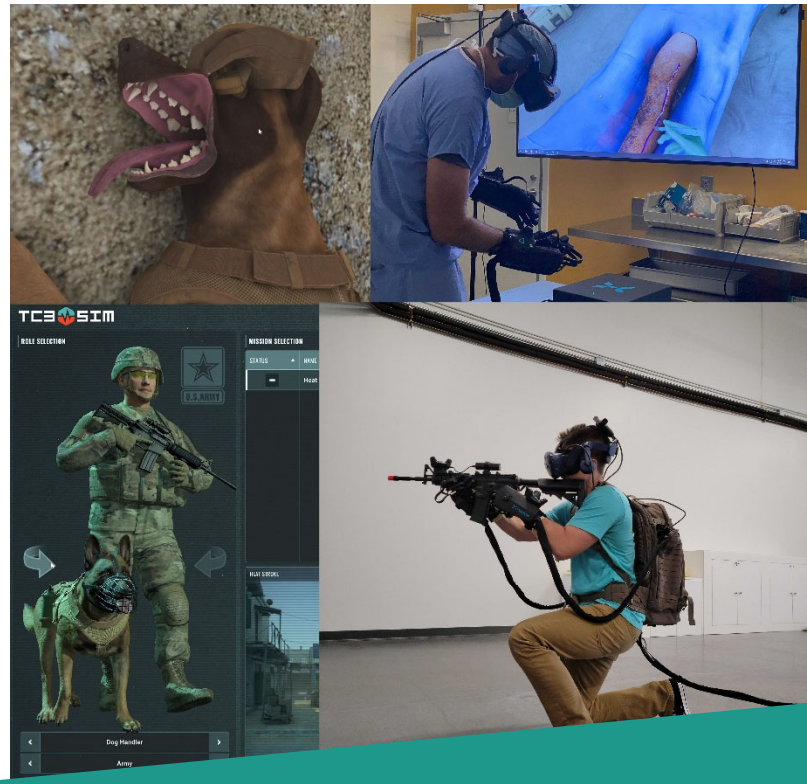
This Phase III Small Business Innovation Research (SBIR) project was awarded to ECS by the Defense Health Agency (DHA). This project consists of designing and developing haptics-based virtual reality (VR) training systems to support medical simulated training environments. This includes combat medicine in the U.S. Army's Synthetic Training Environment (STE) as well as expansion and commercialization to the broader healthcare communities.

The research and development team includes ECS, HaptX, and Mayo Clinic. This collaborative effort integrates high-fidelity VR with state-of-the-art haptics hardware and software solutions to deliver enhanced training capabilities to our Soldiers and the broader medical community.

The initial Phase II effort focused on burn case procedures at the point of injury as well as within a clinical setting and culminated in a Training Effectiveness Evaluation (TEE). The third year of work focused on use of this technology for training Military Working Dog (MWD) Handlers in K9 tactical combat casualty care. Currently, this effort is continuing to advance the technical readiness level (TRL) and extend the capabilities for commercialization and dual-use application including enhanced instructor tools, modular content library, HaptX G1 integration, and multi-role multiplayer support.

Key Features

- Training system for burn care treatment
- Multiplayer Tele-Teaching Scenario
- Multiplayer/Multirole Care Under Fire
- Combat Life Saver (CLS) training
- Emergency personnel training
- Multiple usability tests conducted
- Training Effectiveness Evaluation conducted
- Military Working Dog Handler trainer



ENGINEERING & COMPUTER SIMULATIONS

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