

NAVY Transition Assistance Program

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NEED & CUSTOMER REQUIREMENT

Need: Acquisition managers and requirements developers lack scientifically-validated means to identify requirements for, and to evaluate, current and future virtual training systems. Specifically, the fidelity or realism required in order to ensure effective transfer of training from the virtual environment (VE) to the operational environment must be more objectively identified.

Value to the Warfighter: Training effectiveness and transfer of training from virtual environments to operational environments will be increased, enabling warfighters to train the way they fight.

Operational Gap: While significant research has been conducted examining the transfer of training from VEs, currently fidelity requirements are determined by performance measurements and subjective evaluations.

Customer Specifications: 1) Identify training standards and requirements most appropriately satisfied by simulation, 2) Integrate emerging training simulation technologies with advanced warfighting experiments, and 3) Provide ongoing requirements generation, capabilities development, and integration and fielding of training systems.

Technology Description: The Perceptually-informed Virtual Environment (PerceiVE) Design Tool consists of a physiological monitoring sensor suite, as well as a software package and a unique method for using physiological response within a virtual training environment in order to determine the fidelity design requirements for the environment.

TECHNOLOGY DEVELOPMENT MILESTONES (SBIR/STTR)

| Milestone | TRL | Risk | Measure of Success | TRL Date |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----|----------|---------------------------------------------------------------------|------------|
| Determine whether or not simulator fidelity can be detected using physiological measures | 3 | Low | Physiological data results from lab-based study | Dec 2008 |
| Develop and validate a perceptual skills VE task in which performance is impacted significantly by fidelity | 3 | Low | Performance data results from lab-based study | May 2009 |
| Determine which components of fidelity have the most significant impact on physiological response for a validated perceptual skills VE task | 4 | Low | Physiological data results from lab-based studies | Dec 2009 |
| Compare real world physiological data to that collected in the VE task | 5 | Low | Physiological and performance data results from lab and field tests | April 2010 |
| Validate transfer of training improvement | 6 | Moderate | Transfer of training experiment results | Sept 2010 |

Open contract: N00014-09-C-0051 ending 4/24/10

N07-T028 - AnthroTronix, Inc.

Perceptually-informed Virtual Environment (PerceiVE) Design Tool

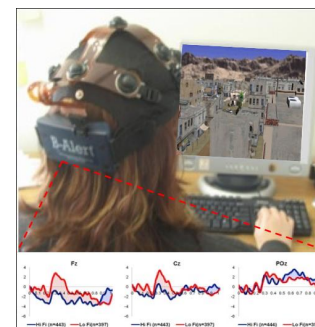
SPONSORSHIP of original SBIR/STTR Topic

SYSCOM: ONR - STTR

Transition Target: Program Manager Training Systems (PM-TRASYS)

Original Sponsoring Program: Office of Naval Research

TPOC Phone Number: 703-696-0364



TECHNOLOGY TRANSITION OPPORTUNITIES (PHASE III)

Other Potential Applications:

Additional applications include commercial video game development, as well as development of entertainment and advertising industry products.

Business Model:

Integrate with existing and future simulation-based experiential learning technologies (ELTs). Make the PerceiVE Design Tool available to acquisition managers at the Program Manager for Training Systems (PMTRASYS) and requirements developers at The U.S. Marine Corps (USMC) Training and Education Command (TECOM) and the U.S. Army Training and Doctrine (TRADOC) Command.

Objective:

The Objective of Phase III efforts will be to advanced the maturity of the technology, including integration and demonstration of the technology within additional VEs, and to transition the PerceiVE Design Tool Technology to an existing program of record (POR) such as the Deployable Virtual Training Environment (DVTE) or the Future Immersive Training Environment (FITE) in FY10, followed by full transition and iterative testing in FY11.

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