

HUMAN INTERFACES TO TRAINING TECHNOLOGY

charles river analytics



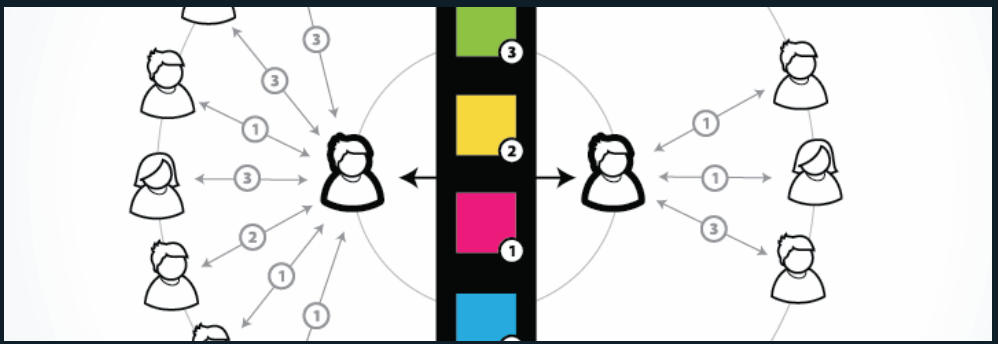
Will my investment in enhanced training technology pay off?

Advances in training technology are exciting—it's tempting to invest right away. However, if you don't first assess the impact of the technology on training transfer, new technology can incur excessive cost and reduce training benefit.



By observing, analyzing, and measuring trainee and trainer decision making and behaviors, our designers, scientists and engineers create intuitive, multi-modal interfaces that are empirically measured to effectively transfer both skills and knowledge to trainees. We offer:

Targeted Domain Analysis across military, healthcare, and professional domains using the Methodology for Annotated Skill Trees (MAST) for enhanced cognitive systems engineering.



Training Simulation Design using evidence-based understanding to choose interface and simulation fidelity levels and interaction modes. Design systems that maximize training effectiveness and engagement based on skills being learned, their role, and their level of experience.

Advanced Interface Design methods to drive novel, constraint-driven visualizations for trainee and observer/controller systems.



Multi-Modal Immersive Architectures including AR/VR/mixed reality, screen-based, and physical patient simulators ensuring best practices are implemented in the training systems.



When you select Charles River Analytics to develop your training systems you'll have the evidence to prove that your training technology dollars are being spent wisely and delivering effective and efficient training.

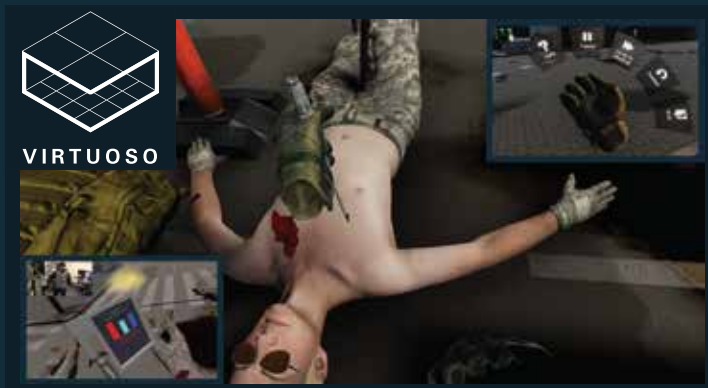
Charles River Analytics has brought state-of-the-art domain analysis into training system design, can draw upon proprietary processes and tools to optimize training system architectures, and can ensure a high rate of return on your training investments. We help our clients ensure that their spending delivers returns that will have long-term payoffs for their organization.

Supporting Natural Human Interaction within Simulations

Naturalistic interactions can help trainees develop learned muscle memory for fine- and gross-motor control tasks and enhance immersion, improving the overall realism and utility of virtual, augmented, and mixed reality training simulations.

We developed VIRTUOSO to facilitate more rapid and consistent development of effective Extended Reality (XR)-based training simulations, with a focus on supporting natural user interactions and control across any virtual environment, platform, or device. VIRTUOSO provides a library of common user interactions, including gesture and speech control, and common virtual objects to configure naturalistic training scenarios. VIRTUOSO also provides hardware flexibility, allowing trainers to utilize their available and/or preferred XR equipment to effectively train physical tasks in virtual reality and then observe their trainees through augmented reality to provide real-time human feedback and assessment. Additionally, VIRTUOSO automatically collects objective user performance data, helping holistically assess skill proficiency and training efficacy. Because our VIRTUOSO platform seamlessly supports so many leading commercial XR peripherals and systems, VIRTUOSO helps existing simulations maintain resilience to inevitable technology advances.

VIRTUOSO (the SDK planned for Open-Source release in Q1 2019) can significantly improve medical training and education, such as first responder or combat casualty training. Ongoing work focuses on leveraging VIRTUOSO's natural interaction capabilities to benefit trainees in ways that can't be done with alternative virtual and mixed-reality setups or live training.



About Charles River Analytics

Founded in 1983, Charles River Analytics is an Employee-Owned Small Business, now with nearly 200 employees, many of whom hold advanced degrees. Our clients are a “who’s who” of government and industry. The original focus of our business was working with the Department of Defense, and we continue to enjoy ongoing relationships supporting DoD, Army, Air Force, and Navy organizations. Today, our relationships with clients throughout government and industry enable us to bring best-in-class research and ideas to the projects we undertake for our customers.

We work with our clients to translate new ideas and research into actionable solutions to the opportunities most important to their success. Charles River Analytics has a solid track record of success in providing our clients with AI systems, technology, software tools, and design and analytic services in a variety of settings. In recent years, we have worked defense, intelligence, medical technology and health care, training, transportation, space, cyber security, and more.



U.S. Prime Contractor



Employee-owned Small Business

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