charles river analytics

Human Interfaces to Training Technology

Will enhanced training costs pay off?

The latest training technology is exciting—it's tempting to invest right away. Unfortunately, new tech may only minimally benefit your program, and can even ***interfere with learning*** and ***reduce performance***.

Deliver provable, long-term value

At **Charles River Analytics**, we help our clients ensure that their training investment delivers long-term payoffs for their organization by providing:

- ***ecologically valid***, ***immersive*** training environments with non-inhibiting and ***natural interactions***, and scalable ***multi-user*** support
- custom tools and libraries to ***streamline development*** and ***increase ROI***

We observe and analyze student and trainer decision making and behaviors to identify which systems and training methods most effectively transfer knowledge to students and build the skills they need.

Our proprietary processes and tools optimize training system architectures and interfaces—we can show you how to optimize the return on your training investment.

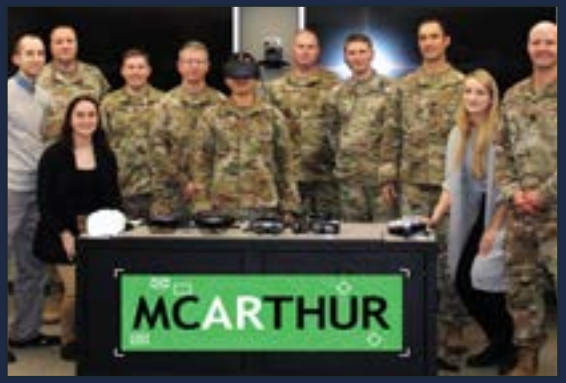
Optimized training systems that deliver measurable results

Charles River Analytics applies proven best practices and design methods to evaluate, optimize, and deliver training interfaces that increase knowledge transfer.

Targeted Domain Analysis

Mission Command students experimenting with ARC-MC (Augmented Reality Capabilities for Mission Command).

Before we begin any design, we use proven cognitive systems engineering processes and tools to thoroughly understand the end user, their environment and tasks, and other factors that influence their work. We've applied this practice to optimize training for military, healthcare, and professional domains.



Our MCARTHUR team led a hands-on augmented reality class with next-gen Army leaders

"…our demonstration let students experience MCARTHUR's augmented reality firsthand—these future Army leaders met the future of Mission Command training."
– Ms. Liz Thiry, Scientist

Advanced Interface Design

We provide advanced human-computer interface components that support fluid exploration and cognitive fusion of data resources.

ST-MASTER provides visualizations that communicate a trainee's proficiency levels in multiple task areas.

Multi-Modal Immersive Architectures

Our VIRTUOSO Software Development Toolkit (VSDK) gracefully provides natural human interactions in virtual training simulations. Robust and adaptable, immersive and engaging, VSDK delivers a state-of-the-art virtual experience.

Natural human interaction in simulations

We worked with the Army Research Laboratory to support natural human interactions in virtual, augmented, and mixed reality environments. Natural interactions are especially important when students need learned muscle memory for physical tasks, such as in combat casualty training.

VIRTUOSO automatically assesses skill proficiency so students can work independently and delivers feedback from expert trainers remotely observing a session.

github.com/charles-river-analytics/VSDK

Because VIRTUOSO gracefully incorporates so many leading commercial control and display peripherals, it spotlights which equipment is best suited to a training task—and can support the equipment available when an individual is ready to train. Simluations that incorporate VIRTUOSO are resilient to future technology advances.

Our free and open-source VIRTUOSO Software Development Kit (VSDK) seamlessly provides natural human interactions into the virtual training experience.

With VSDK's robust and intuitive tools, developers can consistently design more immersive, resilient, and natural AR and VR experiences, yielding higher user engagement and more effective training outcomes. With VSDK, you can deliver a more realistic training product.

To learn more about how we can work with you, email contactus@cra.com.

Charles River Analytics conducts cutting-edge AI, robotics, and human-machine interface R&D to create custom solutions for your organization. Our customer-centric focus directs us towards problems that matter, and our passion for science and engineering drives us to create actionable, impactful solutions.

We were founded in 1983 to perform results-focused research for the US government. We became an employee-owned company in 2012, setting the stage for the next generation of innovation, service, and growth. Today, our over 200 employees make a difference for a "who's who" in government and industry by delivering results on government programs and working with commercial partners.

We come to work every day because we want to advance technology to solve today's hardest problems. Our track record speaks for itself—our implemented solutions enrich the diverse markets of defense, intelligence, medical technology, training, transportation, space, and cyber security. We owe our success to our expertise in advanced algorithms, machine learning, autonomous systems, advanced human-system interfaces, agile software and hardware engineering, and to our enduring base of knowledgeable customers.

At **Charles River Analytics**, we turn research into results.

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