

## TRAINING TECHNOLOGY



### TRAINING & SIMULATION

- Innovative training
- Behavioural training
- Procedural training
- Technical training
- Team training
- Virtual Reality Simulation

### PORTALS

### E-FINANCE



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The training objective of the combined-arms trainer is not on how to operate the weapons systems but rather how to prosecute warfare. One or two days of simulated training is said to be comparable to a week of live field training.

Colonel Ofeq Ronen, head of instruction at the Ground Forces Command, stated, "Once we've completed this process and everyone is linked into the same environment, training

opportunities can take place wherever the forces are. The C4I network creates a visual world for forces in the field. Once we got into that era, we could no longer train people with radio communications and the other classic tools we were using."

"Our vision is that the trainer environment will no longer be separated from actual combat and live tactical drills." **MST**

## Close Encounters Training Gets Personal

The folks who brought the wildly popular "America's Army" edutainment and recruitment game to more than 7 million registered players worldwide have progressed to a new skill level – training soldiers how to think and lead.

Virtual Heroes, the North Carolina company which developed the America's Army game, has applied their game techniques and added biofeedback sensors to create an intriguing "Adaptive Thinking and Leadership" application for the JFK Special Warfare Center and School (SWCS). Originally designed for Special Operations Forces, the ATL is now being used to train Civil Affairs and Psychological Operations personnel as well.

"The ATL application enables soldiers to hone their situational awareness, negotiation skills, and adaptive capacity," says Jerry Heneghan, Executive Producer, America's Army Government Applications and CEO of Virtual Heroes. "Special Forces must respond quickly and intelligently to constant change. The interactive training scenarios and After Action Review (AAR) system provide a means to evaluate the soldier's ability to identify and seize opportunities while thinking critically and creatively."

The simulation was developed in collaboration with Sandia National Labs and West Point's Office of Economic and Manpower Analysis.

To meet SWCS requirements, Virtual Heroes incorporated a robust AAR system and SOF-specific communication capabilities. The ATL simulation provides a virtual environment (in a classroom or during field exercises) for practicing small-group negotiation in a structured but dynamic environment. Scenario locations currently include an Afghan village, a Middle East-type courtyard, a remote bridge, an urban warehouse, and a hospital. An instructor can trigger events which force soldiers to adapt in real time: sniper fire, improvised

explosive devices (IEDs), mortar fire, and even human rights violations.

The AAR captures data, voice traffic, and MPEG video files from pre-selected and instructor-determined camera angles. The instructor can replay the event for the students from any point in the 3D data stream, even "flying through" the environment to demonstrate particular behaviors and actions. Statistics can also be presented in graphical format.

Using biofeedback sensor hardware and algorithms from Emsense (left), a student's breathing, heart rate, blinking, brain waves, and other psychophysiological signals can be measured – from stress to engagement during learning to the user's emotions – to provide instructors enhanced understanding of the soldier's decision-making patterns. "We tune the sensors to the specific learning objectives of each application," Heneghan explains. "We plot the output from the desired vectors against a 2-D AAR video to show individual trainees what was happening to them during each training scenario."

The ATL is even wireless- and Internet-capable for enabling distributed training for Army Reserve and National Guard troops.

Virtual Heroes created a Federal division earlier this year to address the demand of customers looking for serious game-based learning solutions. Heneghan says in addition to ATL, government agencies are especially interested in Survival Evasion Resistance and Escape (SERE) training and cross-cultural communication and language training. "The big trend we have seen this year is "dual-purpose" demand – games that can be used for enhancing proficiency on mission essential tasks for individuals and teams and to enhance mission planning and rehearsals for actual operations."





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