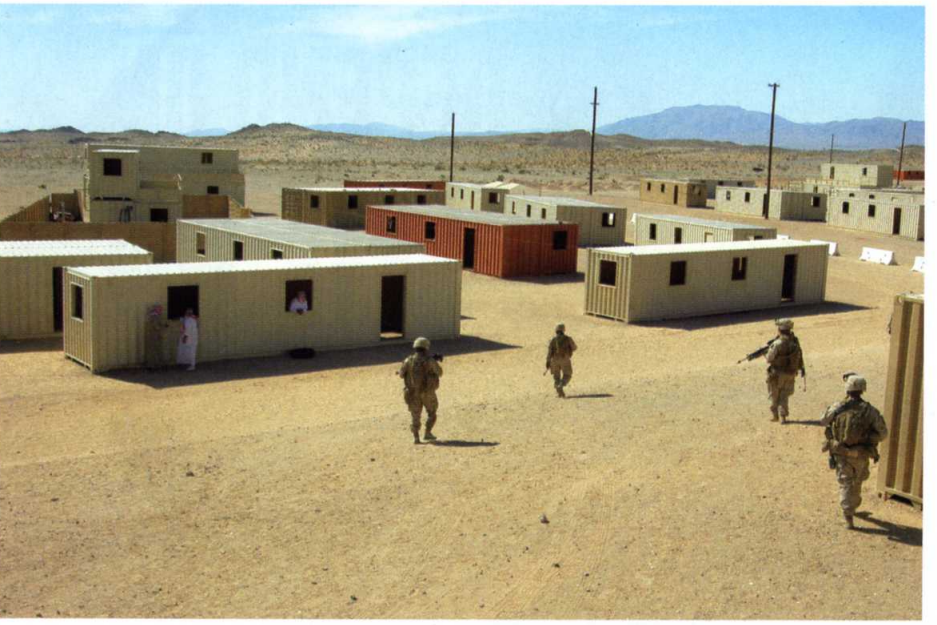
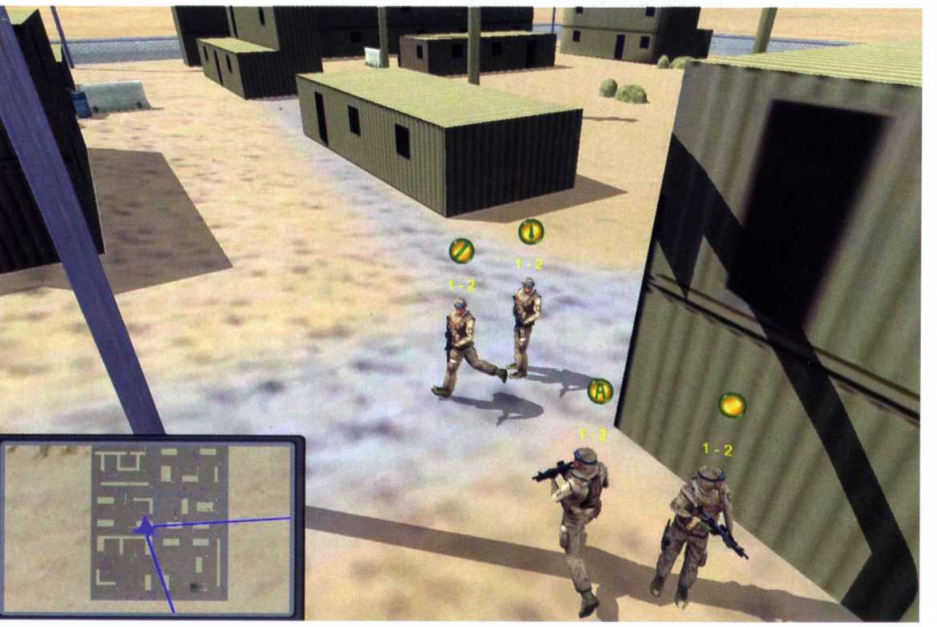
Virtual instructors





U.S. NAVY

ideo imagery of Marines training at Twentynine Palms, Calif., top, is converted into a 3-D virtual mulation using the Behavioral Analysis and Synthesis for Intelligent Training system.

Avatars relieve instructors of burdensome observer tasks

By Michael Peck

Here is a new approach to live infantry training: If you don't like history, rewrite it.

An experimental system turns video imagery of live training into a 3-D virtual simulation — and then allows users to manipulate the avatars to test what-if scenarios.

But that's just the tip of BASE-IT (Behavioral Analysis and Synthesis for Intelligent Training), an ambitious demonstration project funded by the U.S. Office of Naval Research (ONR) in response to a request from the U.S. Marine Corps. "They wanted more intelligent tracking systems in the live training environment," said Roy Stripling, ONR program manager for human performance and education. "They wanted to be able to do after-action reviews with the kind of detail that you can do in virtual environments."

The primary goal is to create an automated range instrumentation system that relieves instructors of the burden of monitoring and reviewing video images of their trainees.

"Instructors currently take notes on specific things they want to bring back during the AAR [after-action review]," Stripling said. "If they know when that happened in the sequence, they can find it. But it takes them time to set that up. It's cumbersome to work through."

There are a lot of elements to BASE-IT. Where to begin? First, the backbone of the system is software that will control video cameras on urban warfare training ranges. The software automatically adjusts the cameras for optimal coverage.

"The instructor doesn't have to sit there controlling a joystick trying to figure out what's the best angle and zoom level to see what's going on," Stripling said.

ONR is developing algorithms that will enable the software to analyze video imagery and compute the optimum angle for pan-tilt-