Bringing Hollywood Pizzazz to Military Training

LOS ANGELES, Nov. 14 — At the flip of a placard, palm-lined street in Marina del Rey, the chants of an audience fill the darkened theater, a Nonscript Office building. On the main screen, a realistic drama played out, as an American giant is trying to keep the peace in a Bosnian village while a local boy, by an American Jeep, lies wounded on the street. Rioting seems imminent. The sergeant turns to the audience and asks, "What should we do?"

A member of the audience, assuming the role of a rookie lieutenant, shouts out, "Call for medical aid." The sergeant demurs. "Um, accuracy, sir, we should secure the area first," he says, guiding the senior officer to the correct area. The sergeant is in reality a digitally generated character. The simulation is designed to train prospective soldiers.

So begins Mission Rehearsal Exercise, one of several virtual reality exercises being developed for the United States Army at the Institute for Creative Technologies at the University of Southern California at a cost of $15 million.

The people running the institute are not served in the military and are not in the Army protocol. But directors and producers who have made feature films with special effects, they know something about storytelling.

The program, one of about a dozen simulation training centers around the country, was set up in an 1899 when the Army used to train its officers in a model of the Parthenon. "They would start from the Parthenon and have the officers simulate a battle," said Richard Lindestorp, the executive director, who was a producer and ran the model entertainment division at the Paramount Television Group. He also joined the Institute for Creative Technologies after attending an opening ceremony conference in 1997.

"It marked my interest in using virtual reality as a tool," Mr. Lindestorp said. "I found out if there were any systems they could use computer games to make people learn to drive tanks or fly helicopters or shoot things." That really didn't interest me. But I thought what would be interesting is, could you actually make decision-making simulations where people really have to think, to react?"

The Institute houses three offices, developed by the Institute for Creative Technologies in Marina del Rey, Calif. The institute employs a staff of 45, including one of the world's leading experts in creating training scenarios that deliver a visceral experience.

William Swartout, director of technology, recently figured out how to make a computing officer say what he sounds as if he meant it. The problem with speech recognition a year ago is that they sounded like telephone operators, he said. "What we've done is create a new voice that synthesizes speech from text on the fly, and it has better commandability," he said. At the click of a mouse, his newly fleshy仑 digital officer says with conviction, "Squad leaders, listen up!"

The technical staff can complicate their scenarios by tweaking the emotional state of the virtual characters, as virtual characters are called. Joy, hope, distress, fear, anger, guilt and anxiety all affect the end result. For example, during the Bosnian minority scenario, a staff member in the back room of the room, a computer mouse across a laptop, thereby ratcheting up the sergeant's defensive. In the next run-through, instead of calmly describing the situation, the newly high-strung sergeant explained that the Jeep accident was not his fault.

Sound is a key stimulus, Mr. Morie explained, "You can get by with less intense graphics if you have good sound," she said. And so the "whup, whup" of a helicopter swoops across the ceiling by means of 100-speaker positions mounted throughout the room, while a rumble of a rumbling tank and squealing rats. It is designed to test soldiers' abilities to memorize sights and sounds.

Russell J. Korris, the institute's creative director, said, "My message was, the Army wanted some fairy dust. They wanted to add some Hollywood creativity into the world. The reason they first thought about making this was that when before, when they were in these simulations, they were getting bored. Just being able to come up with characters with a role, with the help of, having a decent antagonist, all the things that are not second nature for people here in L.A. — these were part of a toolset that are a different point of view.

The applications being created at the institute have yet to be tested in the field. So far, virtual demonstrations have been shown mostly to family and friends of staff members. The group's first prototypes are supposed to be tested by December of this year, although there has been discussion of accelerating the development of some programs following the Sept. 11 terrorist attacks.

"We can take the technologies and put them out into the field," Mr. Lindestorp said. "We've made the proposal and are waiting to hear. We have lots of conversations."

Nothing would make the people here happier than to take some of these technologies and get them out there. Then they could say, "Hey, we're doing our part."