ARTS IN AMERICA

Hugh Hart

Bringing Hollywood Pizazz to Military Training

LOS ANGELES, Nov. 14 — At the of a placid, palm-lined street in arina del Rey, the chants of an an- y crowd fill the darkened theater a nondescript office building. On movie screen, a realistic drama being played out: an American rgeant is trying to keep the peace a Bosnian village while a local boy, by an American Jeep, lies wound- on the street. Rioting seems immi- nt. The sergeant turns to the audi- ce and asks, "What should we do, ?"

A member of the audience, assum- the role of a rookie lieutenant, ls out, "Call for medical aid." The sergeant demurs. "Um, actu- y, sir, we should secure the assem- area first," he says, guiding the perior officer to the correct an- er. The sergeant is in reality a dig- lly generated character pro- ammed to respond in a way that ll teach prospective soldiers. So begins Mission Rehearsal Exer- se, one of several virtual reality ojects being developed for the ited States Army at the Institute r Creative Technologies at the Uni- rsity of Southern California at a st of $45 million.

The people running the institute ve not served in the military and e not versed in Army protocol. But directors and producers who have ade feature films with special ef- cts, they do know something about prytelling.

The program, one of about a dozen mulation training centers around e country, was set up in 1999 when ilitary leaders decided their train- g simulation programs could use a ot of Hollywood-style magic. As cquelyn Ford Morie, who is man- er for creative development, said, e idea is that "emotional connec- vity enhances learning."

Richard Lindheim, the executive rector, was a producer and ran the gital entertainment division at the aramount Television Group. He id he joined the Institute for Cre- ve Technologies after attending a efense Department conference that parked his interest in using virtual ality as a training tool. "They ini- lly wanted to find out if there were ays they could use computer ames to make people learn to drive tank or fly a helicopter or shoot a n," he said. "That really didn't in- rest me. But I thought what would interesting is: Could you actually reate decision-making simulations
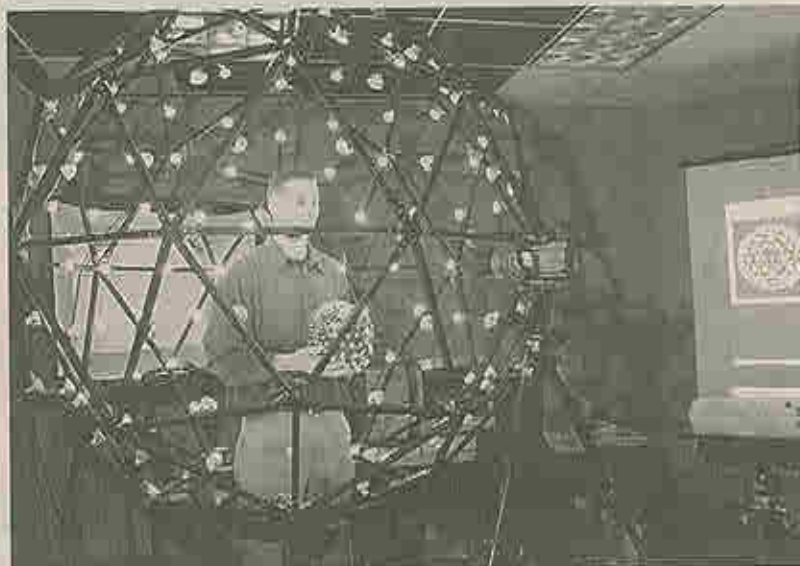
where people really have to think, to react?"

The institute is housed on three of- fice floors laid out by Herman Zim- merman, a "Star Trek" production designer, in this Los Angeles beach community. The institute employs a staff of 45, including a cadre of rum- pled techies intent on constructing training scenarios that deliver a vis- ceral wallop.

William Swartout, director of tech- nology, recently figured out how to make a commanding officer sound as if he meant it. "The problem with speech recognition a year ago is that they sounded like telephone opera- tors," he said. "What we've done is create a new voice that synthesizes speech from text on the fly, and it has much better command voice." At the click of a mouse, his newly ferocious digital officer now yells with convic- tion, "Squad leaders, listen up!"

The technical staff can complicate their scenarios by tweaking the emo- tional state of the "synthespians," as virtual characters are called. Joy, hope, distress, fear, anger, guilt and anxiety all affect the end result. For example, during the Bosnian mission rehearsal scenario, a staff member in the back of the room swipes a mouse across a laptop, thereby ratcheting up the sergeant's defen- siveness. In the next run-through, in- stead of calmly describing the situa- tion, the newly high-strung sergeant explains that the Jeep accident was-

n't his fault.

Sound is a key stimulus, Ms. 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 10 monster speakers positioned throughout the room, while a rumble floor vibrates to approximate the bumpy Bosnian roads.

Dr. Paul Debevec, who developed

Special-effects bells and whistles simulate wartime.

the "trailing bullet" special effects in "The Matrix," is charged with im- proving the richness of photorealis- tic detail in the computer-generated animations. To demonstrate some of his team's innovations, Dr. Debevec essentially downloaded the Parthe- non into a computer. After 3-D scan- ning of the ancient Greek statuary, pillars and walls into a computer program, Dr. Debevec can mimic the scene with an astonishing real- ism. If the prototype were imple- mented and a war broke out in Greece, soldiers could scope out the building in advance.

Other projects include Flat World, which updates flats, a staple of Holly wood set design, into a system called Digital Walls. When combined with projected imagery and old-fashioned stereoscopic dark glasses, the walls create a convincing 3-D effect of a rugged mountain landscape, for ex- ample. There are video games for training company and squad com- manders, and Scenario Dark Con, which simulates a scouting mission on a moonlit night through an under- ground tunnel, complete with the sounds of rumbling army tanks and squealing rats. It is designed to test soldiers' abilities to memorize sights and sounds.

Basing the Institute for Creative Technologies in Los Angeles was no accident, since the idea was to draw upon Hollywood talent. Consultants include John Milius, scriptwriter for "Apocalypse Now," and Randal Kleiser, who directed "Honey, I Shrunk the Kids."

James H. Korris, the institute's creative director, said: "My sense was, the Army wanted some fairy dust. They wanted to add some Holly wood creativity into their world. The reason they first thought about tak- ing this journey was that when they put people in these simulators, they kept getting bored. Just being able to come up with characters with a root ing interest, having a decent antago- nist, all the things that are second na ture for people here in L.A. — those were part of a tool set that represent ed a different point of view."

The applications being created at the institute have yet to be tested in the field. So far, virtual demonstra- tions have been shown mostly to family and friends of staff members The group's first prototypes are sup posed to be completed by December of next year, although there has bee discussion about accelerating the de velopment of some programs follow ing the Sept. 11 terrorist attacks.

"We can take the technologies an put them out into the field faster," Mr. Lindheim said. "We've made that proposal and are waiting to hear. We've had lots of conversa- tions."

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.'"

Kim Kulish for The New York Times

Andy Wenger, a researcher, demonstrates a light simulator at the Institute for Creative Technologies, in Marina del Rey, Calif.