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Waging **war** isn't about fun and games. Or is it? A visit to one of the world's biggest conventions for military training **technology** reveals that today's armed forces are taking cues from video games, theme parks, and Hollywood. Find out how the Pentagon is funding the future of new media at Orlando, Florida's I/ITSEC: the Defense Department's own Disney World.

In one corner of a football-field-sized convention floor crammed with display booths, representatives from VirTra Systems stand at the entranceway to their company's tent. Different videotaped military and security training scenarios play inside, unfolding within a virtual environment formed by a series of interactive projections. A rep walks to the center of the near-circle of giant video images, clutching a realistic-looking laser pistol, as one of the narratives begins: An Al Qaeda terrorist has taken an American engineer hostage, and the rep needs to shoot the bearded baddie down. The rep's laser pistol fires loudly, but misses the mark, hitting instead a pack of explosives strapped to the terrorist's chest. The walls glow with a virtual blast--the mechanized floor, in fact, vibrates like an enormous video game controller--and the scenario ends; the whole event has taken less than two and a half seconds. The other rep turns to the conventioneers clustered around the tent's opening. "This is what our military and law enforcement have to deal with on a daily basis," he says.

"Now, you can also use this to enhance the experience," the VirTra rep continues, fastening a thick, black device around his waist. The "threat-fire belt," he explains, issues an electric shock to the trainee if he or she is hit by the imaginary bullet of a virtual assailant, who might appear anywhere on the semicircular screen. "If you get hit in the back, trust me, you'll remember it. This one will bring you to your knees. The whole idea is to fight through the pain, and keep on going, just the way that you've been trained."

VirTra was one of hundreds of private contractors and military agencies showing off the latest in media-based training systems last December at I/ITSEC, the cumbersomely named annual Interservice/Industry Training, Simulation and Education Conference. I/ITSEC exists to bring together the different military branches, related government agencies, private contractors, and academia to showcase new and future developments in simulation-based training--military lingo for the technology-enhanced, serious-minded make-believe that provides the cornerstone of modern preparation for battle. When I/ITSEC began three decades ago, simulation training meant mechanical airplane cockpit mock-ups with blinking electronic lights, or live playacted war games of the Red vs. Blue variety. Such antique practices have now merged with the cutting edge of science and entertainment. Today, attendees are more likely to engage with something along

the lines of VirTra's immersive virtual theater: the souped-up, grown-up cousins of video games, tailor-made to teach the new-media generation how to fight America's war on terror.

< At first glance, the convention floor seems like a dotcom-era throwback. Elaborately decorated walk-through displays pack the enormous hall, each stuffed with monitors, flyers, and logo-printed giveaway trinkets. Some bear familiar names--Saab, Boeing, Hewlett-Packard, Silicon Graphics. Soundtracks to corporate videos bleed into one another, punctuated by newscaster-cool voice-overs, corny synths, and adrenaline-pumping guitar riffs. Many representatives wear matching team outfits: One group mingles in white lab coats, another in Red Sox jerseys. A smiling female booth staffer offers ice cream in exchange for dropping a business card in a fishbowl, as a polo-shirted man silently creeps by on a Segway scooter.

But this is 2004, not 2000, so the business at hand is fighting war and defending the homeland. Suits are as plentiful as desert camo; some displays are swathed in army green netting. Near the floor's entrance, a giant plasma screen shows a pilot's-eye view of a bombing run over a computer-generated desert landscape, where digital explosions blossom to the tune of Led Zeppelin's "Whole Lotta Love." A company called Dynamic Animation Systems shows off its urban-combat-themed marksmanship trainer prototype in six shooting-gallery-style stalls equipped with video projectors. In each stall, men in suits or uniforms pick up laser rifles and blast away at CGI'd insurgents, who jump out from behind cars and rubble in a digital mock-up of an Iraqi city, complete with fading posters of Saddam Hussein on the sides of buildings. To the casual observer, the trainer seems indistinguishable from the latest Iraq-themed game for PlayStation or Xbox. A woman in jeans and a pink shirt grabs a gun and starts picking off hooded villains with ruthless precision. "Oh man, she is cold!" laughs a soldier standing behind her. A few paces away, a grinning man who could be Dick Cheney's stunt double--fiftyish, balding, dark-blue suit and tie--perches atop a mock armored vehicle inside another dome of video projections, machine-gunning down computer-generated terrorists as the barren, sand-colored landscape rolls around him. Smoke pours from his mounted gun, and real metal shells fall onto the carpeted floor.

To a blue-state civilian outsider, the scene at first seems surreal--or, perhaps, all too real: the ultimate convergence of digital entertainment and the war on terror, a vision worthy of Paul Verhoeven, with blockbuster production budgets to match. As much as 16 percent of the current U.S. defense spending goes toward training, and the dollar amount has escalated sharply since 9-11. In 2000, about $3 billion was spent by the Department of Defense on the MS&T (modeling, simulation, and training) sector; now the figure is closer to $6 billion, thanks to increased demand from both domestic security and conflicts abroad. According to Orlando's National Center for Simulation, a nonprofit industry organization, over $1 billion is spent in Florida alone.

By all accounts, the U.S. Armed Forces devote far more time, money, and research to soldier training than any other military in the world, creating a nexus of academic, corporate, and military interests collaboratively devoted to pushing new-media technologies forward. Thus the conference's Orlando location: University of Central Florida professor Christopher Stapleton, on hand at I/ITSEC with his school's Media Convergence Laboratory, argues that "central Florida is the world capital of experiential entertainment." The area boasts not only long-standing military training centers and significant investment from the Department of Defense, but also the aerospace and theme park industries.

Michael Macedonia, the affable young chief scientist and technology officer of PEO STRI, the army's Orlando-based office for simulation and training, stresses that the large-scale shoot-'em-ups on display at I/ITSEC are definitely not just big-boy's toys. "First of all," he says, "the object is not to entertain you, but to train you." He continues, "The reality is, if you really look at some of these things, they would actually be quite boring to your average game player," noting that many simulations are created to train for mundane skills, like machine maintenance. Such high-tech training, Macedonia explains, is part of the new military's post-Vietnam paradigm. Before 1970, he says, the U.S. Army "trained through blood. Technology for training

was considered expensive. People were cheap."

Macedonia brings up the case of Full Spectrum Warrior, a much publicized video game developed by the army with the help of a commercial gaming company. A popular, gamer-friendly version was released for Xbox in the summer of 2004 to critical acclaim and healthy sales. A related but different form is currently used as a tactical trainer within the military. "If you play the army version--which is the only one that the army endorses, by the way--it's actually very realistic, but it's really hard. People complain that they get killed in five minutes, and can't figure it out. Well, that's because we're trying to get as realistic as possible. It's about training, and so it's about making it hard."

Not that fun does not have its place. Specialist Samuel England, a fresh-faced 19-year-old stationed at the National Training Center in Fort Irwin, California, came to I/ITSEC to showcase the Engagement Skills Trainer 2000. England appears in the trainer's video as an actor. "Making it was actually pretty fun, just like, I guess, any sort of Hollywood-style thing," he says, grinning. At I/ITSEC, he and two other soldiers shot at the EST2000 video screen with mock rifles, trying to take down images of actors playing Iraqi insurgents. England explains that "the Iraqis are actually paid people from Titan," a major military contracting firm. "They actually get Iraqi civilians, ex--Iraqi police, and Iraqi military, and they move over to the States. They act in the films, and they work at NTC." (Although Titan would not return calls to confirm their role in casting actors for the EST2000, representatives at NTC said that if such a video were produced at NTC, then their on-site Iraqi employees would likely be involved.)

At the display for America's Army--the globally popular online game developed as an army recruitment tool--local teenagers scrambled to play with the America's Army Vehicle Convoy Trainer, which looks like an armed, wheel-less Humvee placed in front of an oversize video game screen depicting yet another virtual Iraq filled with digital insurgents. Though available for free on the army's recruitment site since July 4, 2002, America's Army is now being retooled into a training device as well, not only for the military but potentially for other agencies like the Secret Service. "Fun is central," says Colonel Casey Wardynski, originator and director of the America's Army project. "A 'fun' training system means keeping soldiers engaged voluntarily. This situation makes for better training, and can even extend the training day into the barracks, where soldiers could continue to train in their off time."

Already, americasarmy.com touts that America's Army's Government Applications and Future Applications development teams will feed tidbits of new innovations back into the free game, to whet the appetites of its devoted online following. Preliminary materials tout the project as a good "return on investment" for a game that initially cost $7.5 million to develop. "The country is at war and to the extent that America's Army can play a larger role, it should," says Wardynski. "We know there is no silver bullet for homeland security. In this case America's Army can serve two purposes for one taxpayer investment--communicate with young adults about soldiering and provide Americans with skills to address immediate consequences in a first-responder situation."

The fusion of playtime with wartime seems perfectly natural to the folks at I/ITSEC. Many of the participating companies play both sides of the fence, to some ex- tent: VirTra Systems makes both immersive-training devices and theme park attractions, though the former have overtaken the latter in the past four years. "Education, entertainment, training--they're all the same thing," argues Stapleton, who himself comes from a background developing technology for Broadway and theme parks. "They're all in the same business of making memories for a lifetime. When you get down to that, it's not really about the technology--even though it gives us more capabilities--it's about the impact it has on us."

The technologies that shape our culture have always been pushed forward by war: Cell phones, transistors, video games, and even the digital computer itself all emerged from wartime research. In the long term then,

Orlando may be shaping our collective futures more than Hollywood or Silicon Valley. "The entertainment industry is not looking at the real science and art beyond the obvious reactive, thumb-twitching experience that has some kind of titillation to it," Stapleton continues. "That's why I transferred from the entertainment industry to working with military research, because military are the people who are asking the tough questions, and the deep questions that will matter 20, 30 years from now. The military are actually the visionaries of experiential media."

GRAPHIC: Make way for Tomorrowland:The training camps of the future

Photograph by Jennifer Cortner