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**NEWS+ANALYSIS**

## **It's the Training Gain, Not the Game**

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*Soldiers go online to stay alive in Iraq.*

The National Training Center at Fort Irwin, northeast of Barstow, Calif., is the pre-eminent place other than war to learn what combat, urban fighting, ambushes and, increasingly, counterinsurgency are like. But relatively few of the Army's units get to spend much time there - it's time-consuming and expensive in terms of travel, wear and tear on equipment, and paying for role-players and experts. NTC is being transformed by lessons learned in Iraq, but it's still hard for training to keep up with the daily changes in insurgents' techniques.

So what if the Army could somehow package NTC training, or at least key parts of it, and send it along with deploying troops as software playable on a PC or laptop? That's the notion behind the DARWARS program to accelerate the development and deployment of next-generation training systems at the Defense Advanced Research Projects Agency. DARWARS manager Ralph Chatham has fathered a family of 80 percent solutions to immediate training challenges across the military.

Like other DARPA managers, Chatham can't force his products on the services; instead, he distributes via diffusion. He relies on the "cool" factor of his products to entice users. "I use the press, word of mouth. Units say, 'I want it,' and force their administrative units to buy it," he says. Diffusion is behind the viral spread of DARWARS' two most successful tools: "Tactical Iraqi" and "DARWARS Ambush!"

"Tactical Iraqi" is designed to impart basic proficiency in Baghdad Arabic and Iraqi culture in just two weeks to soldiers and Marines whose duties have expanded from being expert riflemen to acting as mayors and negotiators and civil works managers in Iraq. "We wanted to make sure no one would have to ride a horse into a culture blind like the first Special Forces into Afghanistan," Chatham says.

An early lesson in the video game shows the student's avatar (an on-screen image, in this case, of a soldier), on a street in Iraq with another uniformed trooper. Assigned to find out who and where the town's leader is, the soldiers approach several men sitting outside a café. The interchange goes better if the avatar removes his sunglasses, says hello and introduces his companion before asking questions. On his first try, Chatham, who admits to being linguistically challenged, got the leader's name and location. But the situation turned ugly because he failed to say thank you. "You didn't say thank you, you son of a bitch!" one of the men shouted at the departing soldiers. "My own intellectual vision cursed me in Arabic," Chatham ruefully recalls.

"DARWARS Ambush!" started with a challenge from DARPA Director Anthony J. Tether in 2003: What can you do to mitigate the damage to our forces from ambushes? Chatham sought "to train the voice in the back of the head of every soldier" how to identify an ambush, what to do during one, how to avoid them and what to do after one."

The squad-level, multiplayer PC program built on the commercial game "Operation Flashpoint" was developed and delivered to Iraq in six months. It originally was intended to simulate ambushes on convoys. It isn't designed to teach soldiers how to drive in Iraq, but how to mentally prepare for attacks. Soldiers play both the American convoy and the insurgents.

Chatham couldn't have predicted what they would do with his game. "We built it on "Flashpoint" because it had a powerful set of user-friendly authoring tools. . . . It morphed into soldier-authoring - a soldier can put his own scenario in, in less than a day," he says.

"We sent two sets with a Stryker brigade to Iraq and left a set behind at Fort Lewis in Washington. A year later they had 64 computers training 400 soldiers a week in scenarios to match what they needed," Chatham says. "In the summer of 2005, 800 cadets practiced infantry operations in what I thought were convoy trainers."

At Fort Polk, La., a soldier used "Ambush!" to create a replica of the populous area of the base that houses headquarters buildings and the exchange. To convert the game for a disaster relief exercise, he rolled virtual tanks over a swath of the scenario to simulate tornado damage. "They flew the relief coordinator over in a virtual helicopter," Chatham says.

Precisely because of successes like this, DARWARS is closing up shop. "DARPA is the [attention deficit disorder] poster child for developmental research: We quit when we've proven the point," Chatham says. "We have shown people who think training remotely is a bunch of Web pages and a single user that you can manage multiple users and can find out in experiential learning how people perform."

Chatham has learned a few lessons about training games: They aren't trainerless - they work much better embedded in an organization, so soldiers are encouraged to practice together. They

don't automatically train for what you're after. They are relatively cheap, until you paste training on top of them. And most of all, it's the training gain, not the game, that counts.

Even as it fades, DARWARS lives on in a new DARPA project, "RealWorld," a game-based trainer that takes "Ambush!" a step further by adding geospecific landscapes. The goal is for soldiers to be able to build replicas of the site of an operation in a day or two and then practice there in advance of their mission. The first set of usable tools is slated to appear in 2008.

Chatham can't explain exactly why video games work so well for training, but he knows one thing: "A key element is user authoring. It makes users want to try it because they can make it do what they want."

*This document is located at <http://www.govexec.com/features/0107-01/0107-01na2.htm>*

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