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Problems You Can Shake a Joystick At

War Room to Sickroom, Video Games Are Red-Hot

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Glucoboy, a glucose meter that can be connected to a Nintendo GameBoy, will be available for kids with diabetes this spring. SuperCharged!, released last year, helps physics students understand electromagnetism; Virtual U, released in 2001, lets players take on the role of a university president.

By the end of next year, the Federal Budget Game -- how do you solve the deficit? -- will be available to play online.

The U.S. military early on recognized the use of "serious games" -- the term used to describe video games for non-entertainment purposes. The Pentagon spends more than $4 billion a year on simulation equipment and war games, and this week will tell what it has learned to other NATO members at a conference in The Hague titled "Exploiting Commercial Games for Military Use."

But there's more to "serious games" than the U.S. Army's Full Spectrum Warrior and America's Army. Health care providers, college professors and other professionals in public and private sectors are also developing non-entertainment games whose "fun factor" ranks below their "serious factor" -- as with Glucoboy. In fact, this kind of outside-the-Xbox thinking represents the next frontier for the lucrative interactive gaming industry, which had $7 billion in software sales last year, thanks to the popularity of games like Grand Theft Auto: Vice City and NBA Live 2004.

Today, a Serious Games Summit convenes in Washington, bringing together more than 500 game developers and people interested in their use. The summit will feature sessions that include "How Can Games Shape Future Behavior?," "The Potential of Games in Healthcare," "Inside Infinite Teams: Game-Based Team Training," "Real, Reel, Surreal: How Games Impact Perception" and "What Happens When Games Go Into Any Classroom Situation."

Befitting its pioneer status, the military will be a considerable presence at the event, with sessions such as "Non-Combat Military Game Efforts" and "Using Games: The War College Perspective." Jim Dunnigan, a veteran and author of "The Complete Wargames Handbook," is tonight's keynote speaker.

His book is considered a classic in the field of strategy and war-gaming, a companion to true-and-tried, old-fashioned, muddy-boots training. Now a Pentagon consultant, he's a link between that old world and the new one.

"Serious games have been around for a while," says Dunnigan, 61. "The military gave it a start in World War II, and it helped tremendously in training. What this emerging serious-games movement is trying to do is bring the concept of hands-on simulation training to as many activities as possible."

He is also a consultant on Wall Street, where someone out of college training to be a currency trader, for example, spends a "lot of hours" playing on a simulated system. The yen is going one way, the euro is going another. What do you do?

This is, indeed, the Xbox and PlayStation generation, a world of hyperactivity, at least when it comes to fun. Powered by the high-resolution video graphics that have evolved since the late 1980s, video games are now

everywhere -- in computers and consoles, in cell phones and BlackBerrys.

It almost makes the term "serious games" seem oxymoronic.

"You want to be entertained? There are all kind of games that will entertain you for ages and ages. No argument there," says Ben Sawyer, organizer of this week's summit, who grew up playing video and computer games and who now runs Digitalmill, a Portland, Maine-based consulting company that produces market research on the gaming industry. "But this summit is about creating games that can solve other types of problems. How to train soldiers to go into a new culture. How to get people to work in teams together. How to teach principles of science to children."

"Why not have a million people try to figure out how to reduce CO_2 emissions online?" says David Rejeski, project director for the Serious Games Initiative at the Woodrow Wilson Center, a nonpartisan think tank here. "Let a million people play it as a game. Globally. Then see what happens."

The serious game movement started off quietly, carefully, under the radar, guided by Sawyer and Rejeski. In March 2003, Sawyer held two-hour roundtables. A year later, it turned into a two-day event, though that was still piggybacked to a larger event, the Game Developers Conference in San Jose, Calif. This week's sold-out summit is considered a breakthrough.

"The discussion of video games inside the Beltway is shallow and two-dimensional," Rejeski says, noting the military as an exception. "It's either about violence and its effect on kids, which is something worth talking about, or it's about intellectual property, which is again valid. But what is the educational value of games?"

The value, of course, is a subjective matter.

Craig Anderson, chairman of the psychology department at Iowa State University, has written more than 20 articles on video games since 1986, and has concluded, after years of research, that "playing a lot of violent video games is related to having more aggressive thoughts, feelings and behaviors." Still, he adds, "video games can be a very good teaching tool, and if the content of a game is educational, then that's what the player can learn."

The military grasped this concept years ago.

The average age of the 510,000 people in the U.S. Army is 20. "They can't remember when there wasn't a PlayStation or a Nintendo. They're immersed in the technology," said Michael Macedonia, chief technology officer for the U.S. Army's Orlando-based Program Executive Office for Simulation, Training and Instrumentation. There, the motto is "All but war is simulation."

Macedonia's brother, Christian, is in charge of a clinical staff of 180 at a field hospital at Abu Ghraib prison. Before volunteering in Iraq, he was an OB-GYN in Bethesda for the Uniformed Services University of the Health Sciences, where he directed students through medical simulations, from physical exams to life support.

In one of their first phone conversations after Christian Macedonia landed in Iraq, he told older brother Michael that he missed his "simulation labs."

"The great thing about living in a gaming world is you can do things that happen only once in a lifetime or once a year and do them 20 times a day," says Christian, 41, in a phone call from Iraq. His family lives in Bethesda. (Christian calls his 12-year-old son, Aaron, "the Buddha of gaming.")

The medics and soldiers in Baghdad, "or at least on this end of the Sunni Triangle," he says, "love their video games," especially the John Madden NFL games and Halo.

In the past three years, the U.S. military, with increasing popularity, has capitalized on simulation, developing games like Full Spectrum Warrior and America's Army to train soldiers.

These aren't first-person shooter games, says Michael Macedonia, but "first-person thinker games," capturing the subtleties of situations.

"A 19-year-old private has to master a wide range of skills," he said. "He's a negotiator, a Third World economist, a diplomat."

Further, a commercial version of Full Spectrum Warrior -- the brainchild of the Institute for Creative Technologies, an army think tank in Marina del Rey, Calif. -- is now available for Xboxes and PCs, while America's Army, with 4 million registered users online, has been downloaded more than 16 million times since July 2002 and has gone through 15 upgrades -- so far.

Now people like Paul Wessell, developer of Glucoboy, are hoping to model that kind of success -- if not necessarily in such large numbers, then certainly in its efficacy.

Wessell's son, Luke, was diagnosed with diabetes at age 3. He clung to his GameBoy when he was 7 years old and hid (if not intentionally lost) his blood glucose meter.

So Wessell, with his background in automation technology, founded Guidance Interactive Healthcare four years ago and invented Glucoboy for his son. The device, a quintessential serious game, creates an incentive for kids to play with their hand-helds after scoring well on their blood tests. It's still in the last stages of development, said Wessell.

Luke is now 16. By spring, his father said, he hopes his son will be able to play Nintendo as a reward for scoring well on his blood test.

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