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THE DIGITAL PAGE: WEEKLY GUIDE TO ENTERTAINMENT TECHNOLOGY

# Disabled gamers want more than 'fluffy' choices

By **Eric Gwinn**  
Tribune staff reporter  
*Published April 10, 2007*

Video gamer Robert Florio huffs and puffs as he climbs ledges, leaps ravines and scales a rope in "Lara Croft Tomb Raider: Legend."

But that's not emotion of the moment captured in video at [www.robertflorio.com](#); it's Florio moving his character with a sip/puff straw connected to a tricked-out video game controller -- technology that lets him, a quadriplegic who champions accessible gaming, enjoy the popular action adventure title.

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About 10 to 20 percent of the gaming population is disabled, but they get little attention from the Nintendos, Sonys and Microsofts of the world. Now, academia is trying to show gamemakers that with a little thought and ingenuity, their titles can be played -- and purchased by -- gamers they have never courted before.

"Just because they're blind doesn't mean they don't want to play 'Grand Theft Auto,'" says Michelle Hinn, head of the Accessibility Special Interest Group within the International Game Developers Association.

"People ask us, 'How dare you make violent titles accessible?'" Hinn adds. "That paternalistic attitude protects people. Isn't it their freedom to choose?"

Most titles aimed at disabled gamers "are happy, pink, fluffy games," Hinn says. "What if all you had to choose from were pink, fluffy games? Think how boring that would be."



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Hinn's group wants gamemakers to keep the disabled in mind while creating their titles. Programmers can help the visually impaired by letting gamers change color schemes and make letters larger, or output text to a Braille device. They can add closed captioning so that a deaf gamer and a hearing gamer can react to the same ambient sound -- one gamer reads, "The sound of footsteps from behind" while the other hears footsteps from behind.

"Once we have that example," Hinn says, "it'll be hard for Sony, Microsoft and Nintendo to say, 'I had no idea that could be done.'"

After all, she points out, it's nothing new for computer operating systems to offer adaptations for people who want to see bigger type on their screens or keyboard and voice commands for users with dexterity or mobility issues. But video gaming hasn't kept up.

"The computer industry is concerned about how many people will lose eyesight, hearing, cognitive ability and movement as they age," Hinn says. "Some of these limitations are what the disabled have had all their lives."

Hinn, who is an instructor at the University of Illinois at Urbana-Champaign, is organizing a game design seminar to build a socially oriented video game for players with quadriplegia. She hopes such hands-on design work will encourage gamemakers to keep the disabled in mind while creating their titles -- and show them how.

Game controllers and other hardware represent a different challenge, and individual companies such as KY Enterprises have emerged to make custom adaptations for gamers with special physical requirements. The small Montana firm rewires controllers for the PlayStation 2 and Xbox 360, then adds sip/puff straws and other controls. Called the KYE Quad Controller, the clunky metal device may not win design awards, but it lets gamers use their mouths to move characters on screen. The Quad Controller sells for \$260 at [www.quadcontrol.com](http://www.quadcontrol.com).

Perhaps the ultimate game controller operates on brain waves. A teenager being studied for epilepsy last fall at Washington University in St. Louis was able to play "Space Invaders" using his thoughts. Researchers had placed a grid atop his brain to study his disorder, then with the consent of the teen and his parents, connected the grid to a computer attached to the video game. The teen was able to use brain waves to move the on-screen cannon, fire at descending rows of aliens and destroy the first wave of attackers.

Those findings could lead one day to artificial limbs that respond to human thought. It's another example of how video games do more than entertain, says Ben Sawyer, chairman of the Serious Games Summit. That organization is exploring how games can be used to do everything from training surgeons, teaching history to students and educating a sales force.

"Games can be applied to purposes that are outside entertainment," Sawyer says, "for instance, exer-gaming: using games to get people back to breathing normally after surgery."

Illumen Studios, a small Evanston company, merged technical instruction with video gaming by turning a 300-page owner's manual for a robotic wheelchair into an interactive computer program. Prospective wheelchair owners take the program home and learn the techniques they will need by using a computer joystick to make an on-screen wheelchair climb curbs, stairs and navigate around obstacles.



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"There's so much games can do for us," Hinn says. "Being able to offer people one more way to enjoy life is something that we're all involved with."

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