Carleton team's video game creation to put an end to Wii 'cheats'

Active play sensors monitor players exact position and movements

BY VITO PILIECI, THE OTTAWA CITIZEN   MAY 28, 2009

OTTAWA-Researchers at Carleton University may have created the biggest thing in video games since the Nintendo Wii, and their new technology will put an end to Wii "cheats" who relax when they're supposed to be virtually exercising.

Called the Sensor Networks for Active Play — SNAP — it's a series of sensors that are worn on a video-game player's arms and legs, and track the player's exact position and movements.

Think of it like strapping Nintendo's popular Wii-mote controllers to each arm and leg. As your real arms and legs move, so do the limbs of your virtual character on screen.

SNAP is creating a buzz among video-game developers. It recently won an international competition put on by IndieCade, a global organization that supports independent video-game development, and it will be showcased in Los Angeles next week at the E3 Expo, the world's premier video game conference. E3 attracts more than 70,000 attendees, including the world's top video game makers. With so many developers and game companies in attendance, the technology could be licensed and quickly turned into a retail product.

"It's just awesome," said Hannah Johnston, a masters student at Carleton and one of the researchers on SNAP. "The more people who know about what we're doing here at Carleton, the better."

SNAP was envisioned by Anthony Whitehead, a professor in the school of information technology at Carleton and lead researcher on SNAP. After waiting months to get his hands on a Wii — Nintendo production has not been able to keep pace with huge demand for its game consoles — Whitehead was disappointed.

"It's fun for about a month, then people start to cheat and just sit on the couch and flick their wrist," he said. "Our thought process is different. We want to know what the whole body is doing."

To end the so-called cheating, he assembled a team of researchers, including Johnston and undergraduate students Nick Crampton, Kaitlyn Fox and Joe Tuen, and spent 18 months making SNAP a reality.

The Wii works by having players emulate moves they would make while playing a game in real-life. For example, to play Wii baseball a player holds the Wii-mote like a bat and swings at virtual pitches — though nothing stops the player from sitting down and swinging the bat with a flick of the wrist.

SNAP aims to put an end to couch-potato gaming for good. Its sensors can tell the exact position of all the player's arms and legs — and whether the players is standing or lounging on the sofa.

"If we have you do a jumping jack, it can tell if your legs are apart," said Whitehead.

The system works by placing an accelerometer, the same technology utilized by the Wii and Apple's

iPhone, into each sensor placed on a person's body, and relays those positions back to the gaming system.

Whitehead said more sensors can be added if needed, for example, to teach yoga or pilates. Extra sensors could monitor the positioning of the torso, head and neck.

He says SNAP could offer a far better workout than Nintendo's Wii Fit, which approximates a player's movements using a balance board.

Whitehead and his team are hoping the E3 show will be a breakout moment for SNAP.

"We're really hoping to get this into the hands of someone who can do more with it," he said. "It would be nice if someone saw the value of the technology and what we have done."

SNAP will be showcased at the IndieCade booth at E3, where a video will show people using SNAP and explain how it works. Whitehead is also working on getting a review unit to the show so attendees can try the system out themselves.

However, Whitehouse has heard that the organizers at IndieCade are so impressed with SNAP that they may take it to other high profile video shows, like the Game Developers Conference (GDC) next year.