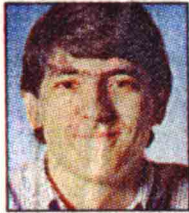


Virtual minds of their own

Artificial-intelligence software gives life to individuals in games, films

Paul Kruszewski helps create artificial brains for animated objects, be they schools of fish hunted by a hungry shark or Roman soldiers marching behind a leader and dodging enemy ambushes and falling boulders.

Now, he is turning his gray matter to the task of getting his company's first software tool - The Autonomous Character Plug-in, launched last week - into the hands of customers in two multibillion-dollar industries: computer-game design and film-making.



ANDY

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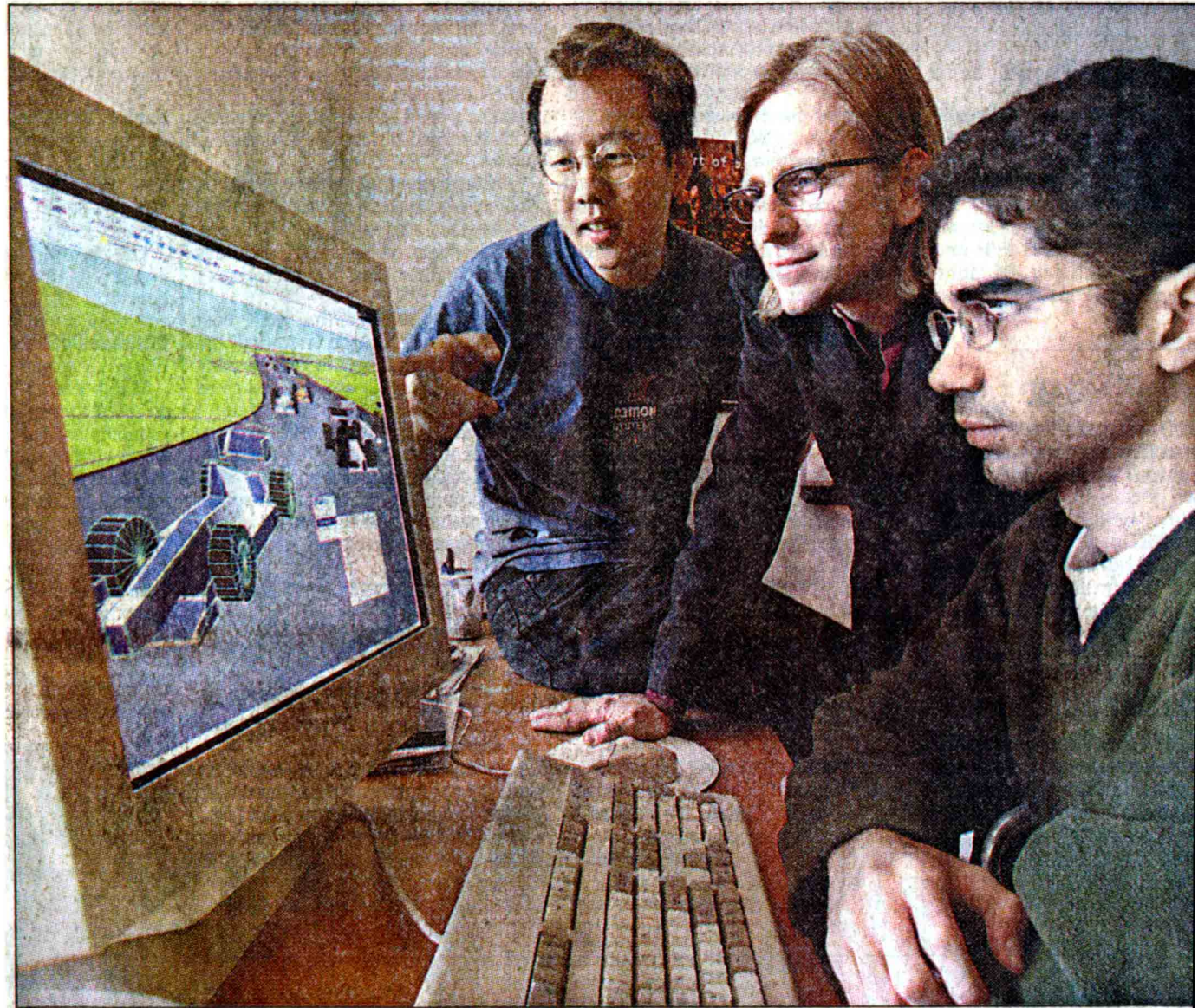
"We simulate characters moving around in their environment, avoiding each other, running away from threats like boulders and enemies," says Kruszewski, the 33-year-old founder and president of Montreal's **BGT BioGraphic Technologies Inc.** "You specify what their behaviours are, and then just let them go."

By using BGT's ready-made "artificial-intelligence" software, makers of games and films can shave months off development time and cut their programming budgets because they don't have to waste time plotting a character's every move or use valuable resources creating their own special software to guide them, Kruszewski says.

Today, game-makers, particularly smaller ones with limited budgets, often avoid scenes featuring many characters, he notes. In such cases, getting a piece of easy-to-use artificial-intelligence software will open the door to more options and richer productions.

BGT's technology, developed in the 10 months since the company was founded, will be on display this month at the Electronic Entertainment Expo in Los Angeles, an interactive-entertainment trade show that attracted 62,000 industry professionals last year.

Please see **RIGA**, Page D4



BGT BioGraphic people watch their software in action: (from left) Vincent Stephen-Ong, Paul Kruszewski and Muthana

DAVE SIDAV

Part of mission

RIGA

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Kruszewski is one of 10 Quebecers going as part of a young-entrepreneurs trade mission sponsored by several government agencies and l'Alliance NumériQC, an industry association.

An Alberta native with a PhD in computer science from McGill University, Kruszewski worked at several local software houses before launching BGT. At **Hutchison Avenue Software**, he helped develop software used to create trees and lightning on TV shows and films. He moved on to **Public Technologies Multimedia**, where he worked on that company's My Virtual Model E-commerce tool.

At BGT, Kruszewski and his employees – two 24-year-old McGill computer-science grads – focused first on creating artificial-intelligence software that works with Maya, a 3D-animation and visual-effects software package made by Toronto's **Alias/Wavefront** for film-makers and game designers.

BGT's Maya component, described by Alias/Wavefront product manager Tom Harper as "a well-thought-out, intuitive artificial-intelligence engine," is to be followed this summer by similar software for use with two other popular visual-effects packages for film and games, both made by Montreal firms: Xsi from **Softimage** and 3ds max from **Discreet**. Those products – known as "plug-ins" – will sell for \$5,000 U.S. apiece.

The company is also working on a stand-alone artificial-intelligence "software-development kit." Due out this spring, it will allow game-makers to embed BGT's artificial-intelligence technology into their own software. It will sell for about \$50,000 Canadian.

Several dozen companies are testing BGT's technology, including local game-maker **Artificial Mind & Movement (A2M)**, creator of such games as *The Grinch*, *Bugs Bunny: Lost in Time* and *Jersey Devil*.

HALVES DEVELOPMENT TIME

"It looks very interesting, especially for when you're designing games involving scenes with lots of characters," says Marcel Achard, A2M's lead artist. "It's possible to establish the behaviours for characters, so it cuts down on the time it would normally take to define the behaviour of every character individually." For games with many complex scenes and many

characters, it could easily cut development time in half, he says.

BGT, currently in talks with software distributors, has received a \$50,000 grant from l'Alliance NumériQC and another grant "in the high five figures" from the Natural Sciences and Engineering Research Council of Canada. With one outside investor, the company also hopes to raise money from venture capitalists in coming months so it can expand to 12 to 15 employees by Christmas, and ramp up sales and marketing efforts.

The aim: to have revenue "in the millions" by next year.

"Our biggest challenge is growth – growing from an R&D shop to a real commercial software company," Kruszewski says.

"We know what it is to develop software. Now, what we're trying to learn is how to sell software and what kind of people we need."

There are no comparable software products on the market right now, Kruszewski says, but that free ride won't last long. He describes his company's current phase as a balancing act: focusing on selling his product while ensuring the company stays ahead in R&D.

"We've got a good nine-month lead on people, but we have to try to push it to 12, 18 months so it's hard for anyone else to enter this space," he says.

In Los Angeles, Kruszewski will meet with companies testing BGT's software, as well as other potential customers.

Nine other young (18 to 35) Quebec entrepreneurs will also be hustling during the trade mission:

- Martin Lizée, **Digital Fiction**
- Yan Cyr, **Enzyme Digital**
- Mauricio Oyarzun, **Insane Logics**
- Nicholas Hamel-Nadeau, **Millenia Multimedia Technologies**
- David Beaudoin, **Novisoft**
- Carl Comeau, **Productions Medium One**
- Jean Nicholson Prudent, **Reflex Systems**
- Sylvia Kuersteiners, **Studios Art-Média**
- Patrick Prémont, **Teneon Technologies**.

SITE SEEING

- BGT BioGraphic Technologies: www.biographictech.com
- L'Alliance NumériQC: www.numeriqc.ca
- Electronic Entertainment Expo: www.e3expo.com