

Industrial Research Assistance Program (NRC-IRAP)

Region: NRC-IRAP West Winnipeg

Frantic Films



NRC-IRAP provided us with technical expertise when we wouldn't otherwise have been able to afford it,"
Frank Zorniak
CEO
Frantic Films.

Photo: Frantic Films selected as a Canadian Innovation Leader.

Left to right: Ian Smith, Director General, NRC Institute for Biodiagnostics, The Honourable Dr. Rey D. Pagtakhan, Minister of Western Economic Diversification Canada, Ken Zorniak, CEO, Frantic Films, William Smith, Executive Director, NRC-IRAP West

Animation software creates a splash

When the Tar Monster oozed its way onto movie screens across North America in March 2004, the audience at Winnipeg's Towne Eight theatre cheered and clapped. Not for the evil viscous blob in *Scooby Doo II*, but for its creators.

Computer programmers and artists at Winnipeg's Frantic Films had spent six months creating the Tar Monster's five-minutes of silver screen fame using their unique, in-house Flood software. Developed with the technical and financial support of the National Research Council's Industrial Research Assistance Program (NRC-IRAP), Flood has rapidly emerged as one of the world's leading tools for animating fluids, from water to tar.

Animator and Frantic president Chris Bond and long-time friend and University of Manitoba commerce grad Ken Zorniak teamed-up to form Frantic Films in 1997. At the time, the company's success in visual effects and animation for television commercials and films was fuelled primarily by bountiful creative talent. This and the financial edge against American competitors of comparatively low Winnipeg overhead costs, and the low-value loonie.

But in looking at L.A.-based animation studios, including giants such as Sony Image Works and mid-sized ones such as Asylum, Bond and Zorniak realized that if they were going to succeed in getting major contracts they also needed a technical edge.

"In the bigger film market it's all about uniqueness and what you can bring to the table that's different than everyone else," says Zorniak, Frantic's Chief Operating Officer and senior visual effects producer.

In 2000, with NRC-IRAP support, the company hired its first computer programmer, forming the beginnings of the company's R&D unit.

Navigate the world of innovation...



**For information on IRAP,
or to reach an Industrial
Technology Advisor
(ITA), please contact the
IRAP regional office
nearest to you. In
Winnipeg call (204) 984-
6478.**

Web site:

<http://irap-pari.nrc-cnrc.gc.ca>

"NRC-IRAP provided us with technical expertise when we wouldn't otherwise have been able to afford it," says Zorniak. A federal initiative, NRC-IRAP works closely with all kinds of small and medium-sized enterprises, helping them grow their businesses, increase their competitiveness, and enhance their impact in the marketplace.

Soon after this, Frantic realized that there was potential in developing improved software to animate fluids. The complex motion of fluids is governed by the physics of fluid dynamics. Traditionally animators have used lower-quality simulators, or hand-animated these fluid motions, a process that's technically limiting and enormously time consuming.

"If you can create a simulation system where you're able to automatically generate some of the natural laws of physics it creates a much more dramatic product and frees your artists to work on other aspects of the shots," says Zorniak.

After months of development—including scouring the fluid dynamics scientific literature and examining existing fluid simulation systems—the programming team produced the first version of the Flood software. The software debuted last year at an animation industry event, quickly catching the attention of major studios. Flood is now one of the one of the top three fluid simulation tools in the world, and Frantic has applied for a number of patents on the software.

Based on Flood's strength, Frantic was able to win the Tar Monster contract even while competing against the major U.S.-based studio that was animating other characters in *Scooby Doo II*.

Beyond this one film, Zorniak says the company's computer programming R&D capability has helped generate a "creative critical mass" at Frantic. The increased work generated by the company's success, including on the recent films *The Core* and *X2: X-Men United*, has meant that Frantic has hired 20 more artists, growing to a staff of 73.

In addition to Flood, the programmers have developed a render management software that controls the rendering priorities and capabilities of Frantic's network of 150 computers. This software is currently being refined and tested and will likely be the company's first product, slated for release later this year.

Though *Scooby Doo* beats the Tar Monster in the film, Frantic believes its Fluid software will soon rise again on movie screens, and even maybe in other settings.

"We're very confident the underlying physics within the actual simulator is accurate and that the visual elements would be applicable to other industries," says Zorniak, noting that the fluid dynamics simulations might be useful in the virtual prototyping of things from ships hulls to medical procedures.

Contact:

Ken Zorniak
Frantic Films
Tel: 204.975.5114
E-mail: kzorniak@franticfilms.com

Web: www.franticfilms.com