the computer museum news

Coming Soon:
The Giant *Virtual FishTank*


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Be One of the First to Create a Virtual Fish!

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On June 13, the Museum unveils a 2,200-square-foot virtual undersea world, *The Virtual FishTank*™. In the exhibit, visitors can create and interact with their own virtual fish to gain new insights into how complex living systems work. The project represents the most complicated software development of an exhibit that the Museum has ever undertaken.

The *FishTank* offers firsthand experiences in creating artificial life forms and reveals how simple behavioral rules can produce complex, often surprising, results. "One of the best ways to learn is by building things," says Mitchel Resnick, professor of research in education at the MIT Media Lab and a *FishTank* project co-leader along with the Museum's executive director, Oliver Strimpel. "In this case, you build behaviors for your own artificial fish, and then observe the patterns that emerge as your fish interacts with others in the giant *FishTank*. It's an engaging experience—and also a great learning experience," says Resnick.

Twelve large projection screens form windows into the 400-square-foot central tank—a fanciful, watery world populated with over 100 brightly colored, computer-generated fish. At "Build Your Own Fish" stations, visitors design their fish, choosing behaviors such as appetite for food and responsiveness to temperature, human beings, and other fish.
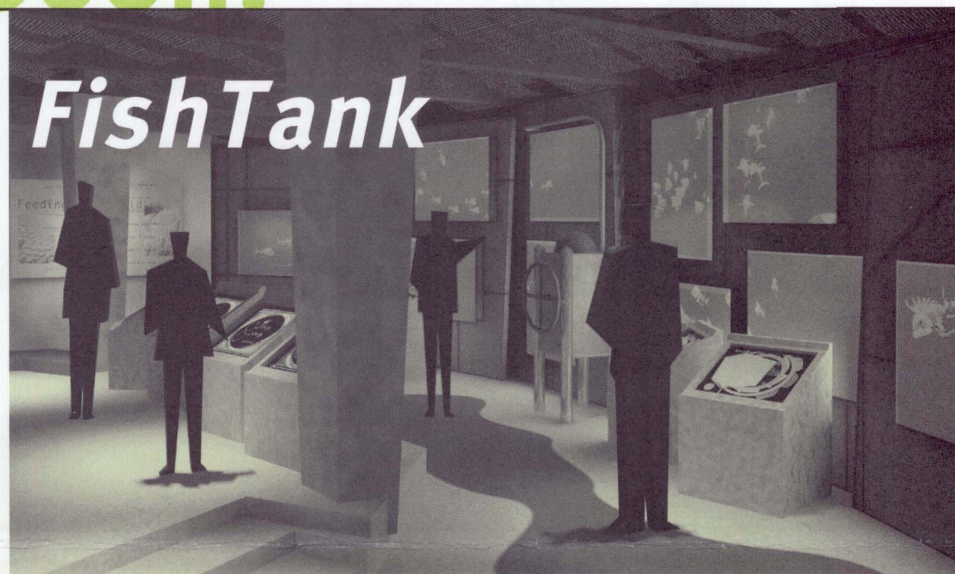
These choices affect the shape and color of various body parts. When visitors are satisfied with their fish, they launch their creations into the tank, and then experience how the few simple rules they used to design their individual fish lead to complex behaviors and patterns for the entire ecosystem.

By cranking a wheel, visitors also feed the fish, while sensors enable the fish to react to human movement. At "Schooling" stations, visitors interact with entire groups, including predator, friendly and deep-sea fish. While a fish school may seem to have a leader, local interactions among all the individual fish actually determine their behavior. "Diving Deeper" stations reveal that this phenomenon applies not only to fish, but also to other systems such as birds, insect colonies, highway traffic, and market economies.

"*The Virtual FishTank* presents important new ideas about the way the world works, and how we think about it," says Mitchell Kapor, founder of Lotus Development Corporation and president, Kapor Enterprises, Inc. "It is an unforgettable experience to enter and interact with such a graphically rich, sophisticated virtual world."

The exhibit is a collaboration with the MIT Media Lab and Nearlife, Inc. The Museum is building this compelling, simulated aquatic environment, combining the latest techniques in 3-D computer graphics and real-time interactive character animation. Combining the Museum's expertise in creating large-scale, immersive educational experiences and the Media Lab's knowledge of artificial life and decentralized systems, the *FishTank* has been germinating for five years. But recent advances in software technology, such as Nearlife's Directable Characters™ now enable the virtual fish to interact with visitors and other fish in real time. Nearlife, an MIT Media Lab spin-off, is designing and implementing the exhibit's many complex parts.

The $1 million exhibition is being developed with a $600,000 grant from the National Science Foundation—the largest ever to the Museum—and funding from the Kapor Family Foundation, Sun Microsystems, anonymous gifts and other support.

A traveling version of the exhibit is also planned. A dozen science centers and aquaria across the country have expressed interest, including the Franklin Institute in Philadelphia and the Exploratorium in San Francisco.

THE VIRTUAL FISHTANK
MEMBERS-ONLY PARTY

FRIDAY, JUNE 19, 6:00–8:00PM

TO RSVP, CALL (617) 426-2800 x660