



INNOVATION March 1, 2007, 10:54AM EST

The Face of the \$100 Laptop

One Laptop per Child's breakthrough software replaces the standard PC look with a design for the networked age

by [Steve Hamm](#)

The so-called \$100 laptop that's being designed for school children in developing nations is known for its bright green and white plastic shell, its power-generating hand crank, and for Nicholas Negroponte, the technology futurist who dreamed it up and who tirelessly promotes it everywhere from Bangkok to Brasilia. What has not received much attention is the graphical user interface—the software that will be the face of the machine for the millions of children who will own it. In fact, the user interface, called Sugar, may turn out to be one of the more innovative aspects of a project that has already made breakthroughs in mesh networking and battery charging since Negroponte unveiled the concept two years ago.

Sugar offers a brand new approach to computing. Ever since the first Apple Macintosh was launched in 1984, the user interfaces of personal computers have been designed based on the same visual metaphor: the desktop. Sugar tosses out all of that like so much tattered baggage. Instead, an icon representing the individual occupies the center of the screen; "zoom" out like a telephoto lens and you see the user in relation to friends, and finally to all of the people in the village who are also on the network.

CHILD-CENTRIC

It's the first complete rethinking of the computer user interface in more than 30 years. "We're building something that's right for the audience," says Chris Blizzard, the engineering project leader for Sugar. "We don't just take what's already there and say it's good enough. You can do better."

The audience he and his colleagues have in mind is the hundreds of millions of poor kids all over the world. Negroponte came up with the nonprofit "one laptop per child" idea when he was chairman of the MIT Media Lab and observed the failure of standard attempts to use computers in education to improve the lives of underprivileged children. Typically, a handful of computers, designed for business applications, are installed in schools; students only use them in special computer classes and are forced to share. Negroponte's idea was to give a laptop to each student that he or she could take to every class and bring home at the end of the day. "OLPC is child-centric, designed to be a seamless part of their lives at home, at school, and in play," he says.

Nearly a dozen countries, including Brazil and Thailand, have committed to buying the computer, now officially called XO. The UN Development Program will administer the program locally. About 2,500 beta test machines ran off assembly lines in Taiwan in February and are now being shipped to participating countries so they can kick the tires on the technology. The final version is supposed to be ready by August.

"YOU JUST DO IT RIGHT"

While XO has been greeted warmly by many, some technologists criticize Negroponte and his colleagues for not testing out their new ideas on underprivileged school children earlier in the process. And that goes for the user interface as well. Jakob Nielsen, a user interface designer and principal in the consulting firm Nielsen Norman Group, falls into the critical group. While familiar with the design of Sugar, Nielsen's criticisms focus on the process. It's only in the coming weeks that they'll begin to get feedback from kids. "It's always dangerous to release any product without the safeguard

of user testing," says Nielsen. "But it's outright reckless in a case like this."

But XO developers defend their approach, which grew out of a core philosophy of the MIT Media Lab known as "demo or die." Researchers are encouraged to build new things, critique them, and then make improvements—rather than doing a lot of concept-testing up front. They're backed up by John Maeda, a user-interface design guru from the Media Lab who has been watching the XO development process from its beginnings. "They're using the Steve Jobs method," he says, referring to Apple's famous chief executive and design whiz. "You don't use focus groups. You just do it right."