

Last Updated: Thursday, 17 November 2005, 09:39 GMT

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## UN debut for \$100 laptop for poor

**By Jo Twist**

BBC News technology reporter in Tunis

**A prototype of a cheap and robust laptop for pupils has been welcomed as an "expression of global solidarity" by UN Secretary General Kofi Annan.**

The green machine was showcased for the first time by MIT's Nicholas Negroponte at the UN net summit in Tunis.

He plans to have millions of \$100 machines in production within a year.

The laptops are powered with a wind-up crank, have very low power consumption and will let children interact with each other while learning.

"Children will be able to learn by doing, not just through instruction - they will be able to open up new fronts for their education, particularly peer-to-peer learning," said Mr Annan.

He added that the initiative was "inspiring", and held the promise of special and economic development for children in developing countries.

### Green machine

The foldable lime green laptop made its debut at the World Summit on the Information Society, which is looking at ways of narrowing the technology gap between rich and poor.

Nicknamed the green machine, it can be used as a conventional computer, or an electronic book. A child can control it using a cursor at the back of the machine or a touchpad on the front.

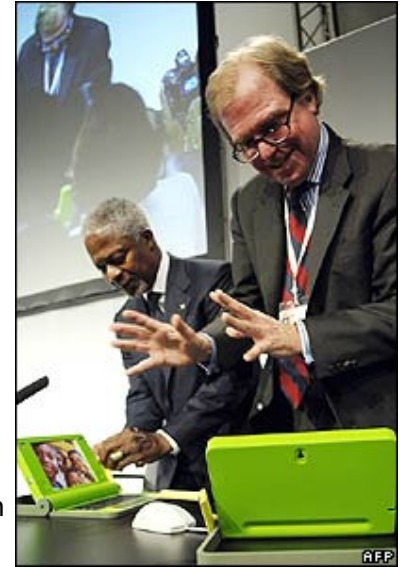
It can also be held and used like a handheld games console and can function as a TV.

"The idea is that it fulfils many roles. It is the whole theory that learning is seamless," said Professor Negroponte, who set up the non-profit One Laptop Per Child group to sell the laptops to developing nation governments.

"Studies have shown that kids take up computers much more easily in the comfort of warm, well-lit rich country living rooms, but also in the slums and remote areas all around the developing world."

There has already been firm interest in the machines from governments, though no laptops have yet been manufactured.

Professor Negroponte said he had asked the most enthusiastic countries, Thailand



Nicholas Negroponte wants to make millions of the machines

**“ We really believe we can really make literally hundreds of millions of these machines around the world ”**

Nicholas Negroponte, MIT

**Net control row rumbles on UN predicts 'net of things'**

and Brazil, not to give written commitments to buy the machines until they had seen the working model, likely to be produced in February.

There has also been interest in the machines from five manufacturers and three big brand name technology firms, but no firm commitments had been made.

### **Big name supporters**

The laptops will be encased in rubber to make them durable and their AC adaptors will act as carrying straps.

They have a 500MHz processor, with flash memory instead of a hard drive which has more delicate moving parts, and four USB ports. They link up and share a net connection through "mesh networking".

Plans for the global domination of the children's laptop are ambitious.

"The initial plan is to start with countries that are big and very different to each other," said Professor Negro Ponte.

"We are launching with six countries initially, then six months later, as many countries as possible." Those include countries in the Arab world, two Asian, one sub-Saharan, and South American nations.



A working prototype of the machine was on show

The project also has some big name supporters on board, including Google, and media mogul Rupert Murdoch.

But it will rely on open-source software so that support for local content and languages can easily be built.

Although the laptops will initially be available to government only, the Massachusetts Institute of Technology (MIT) is in talks with commercial manufacturers to make it available on the open market.

To take part in the initiative, governments have to commit to buying a million machines for around \$100 each.

Mr Annan urged leaders and stakeholders at the summit to do their utmost in ensuring that the initiative was fully incorporated into efforts to build an inclusive information society.

"We really believe we can really make literally hundreds of millions of these machines around the world," Professor Negro Ponte said, as costs continued to drop.

He added that it was critical that children actually owned, instead of loaned, the machines.

To overcome the potential problem of secondary "grey markets" for the machines, Professor Negro Ponte said the idea was that they would be so ubiquitous and prominent it would deter potential re-selling.

"I hope there would be community pressure so it does not appear in the secondary market. The technology is in it so that the machine is disabled if not connected to the network after a few days," he added.

### **Sharing and collaborating**

Technical breakthroughs have already driven the prototype design, but every technical breakthrough in the next five years would mean costs would continue to fall, he said.

Michail Bietsas, MIT's director of computer systems told the BBC News website that laptops benefited primarily from mesh networking, as a way of sharing scarce net connections.

One computer with a wi-fi or 3G net modem, for example, would share the connection with others in a classroom.

He explained that the display did not have a backlight or colour filters that more pricey LCD laptop displays used, so saved power. Instead, bright LEDs are used which reduced power consumption by a factor of 10.

The screens are dual-mode displays so that the laptop can still be used in varying light conditions.

Although children will be able to interact with each other through the machines, education was still the priority for the laptops.

But by using mesh networking, the vision is for children to interact while doing homework, and even share homework tips on a local community scale.

Collaboration will also be encouraged by using open-source software, which the children could develop themselves and use in local communities.

"Every single problem you can think of, poverty, peace, the environment, is solved with education or including education," said Professor Negroponte.

"So when we make this available, it is an education project, not a laptop project. The digital divide is a learning divide - digital is the means through which children learn leaning. This is, we believe, the way to do it."

#### HAVE YOUR SAY

“ They couldn't have chosen a different colour for those \$100 laptops? That awful lime green will hurt the eyes after a while ”

Serenity

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