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# Getting the world's poor logged on

**The power of a new technology initiative for the third world lies in giving the ability to communicate, writes Gervase Markham**

What's the difference between a scientist and an alchemist?

For hundreds of years of the last millennium, alchemists beavered away to work out how to transmute base metals into gold. But because they were highly secretive, each of them was working alone and usually starting from scratch – and so they never got as far as the nuclear physics which would have showed them the pointlessness of their quest.

It has been observed that the chief thing they each discovered was how to turn gold into less gold. However, when experiments are documented and results are published, knowledge is shared, and one person can build on the work of another. That's when progress is seen. Documentation, publication, sharing and building are what differentiate Flamel from Faraday.

For the last year, an organisation called One Laptop Per Child (OLPC) has been researching how to design, manufacture and distribute a laptop computer costing less than £60 to 100 million children in the developing world. Set up by Nicholas Negroponte - founder of the MIT Media Lab, renowned for its innovative approach to human-computer interaction problems - the non-profit organisation aims to provide children in countries like China, India and Thailand with tools with which to work.

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The current design for the machine specifies an innovative dual-mode display with low-resolution colour and high-resolution black-and-white modes. It uses a low-power, high-performance processor, and has no moving parts – all data is stored in Flash RAM, like those fiddly little memory cards you put in your camera or phone. The rechargeable battery can be refilled from any number of sources, including a hand crank.

Needless to say, it'll be running free-as-in-freedom software – a modified version of Linux. This is partly because, with margins this tight, even a dollar for Bill is a dollar too many. But it is mainly because it's vitally important that these children own the software as much as they own the hardware – so they can examine it, change and adapt it to their needs, and distribute those changes to their friends.

However, to stop there would be to ignore the laptop's most important capability. The machines are capable of forming a wireless peer-to-peer mesh network, setting up ad-hoc communications links with anything in the vicinity with the same capability – like another laptop or internet-connected node. The software which powers this innovative ability was developed at the Media Lab and is a wonderful example of using complex software to make computers simpler.

But having a wireless network is about much more than passing e-notes to your classmate. Instead of each owner of an OLPC machine starting from scratch in enforced hermitage, they can draw knowledge from and contribute knowledge to the global information commons. The network transforms the children from alchemists into scientists.

Being connected changes the way people use computers. Before the internet, the data on a computer was mostly either there when it arrived, or created by the owner. Today, the vast majority

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ever waste their time trying to turn lead into gold.

OLPC's greatest gift to those children will not be the computer itself, but the ability to document, publish, share and build. When every child has a laptop, the chatter of a hundred million keyboards will deafen the world.

**Gervase Markham works for the Mozilla Foundation, a non-profit organisation dedicated to promoting choice and innovation on the internet. His blog is Hacking for Christ**

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