

THE END USER

A voice for the consumer

This pen is mighty

By Victoria Shannon

PARIS

Three French companies, with an assist from the Finns and the Swedes, have combined their ingenuity to come up with a digital pen-and-paper system called PaperPC that, broadly speaking, digitizes anything you can write with a pen.

What makes it different from similar systems is that it also collects all of your notes, drawings or handwritings so that they are available to you — or the friends or colleagues you designate — from anywhere that you can access the Internet. Or they can be sent to your mobile phone.

The PaperPC system comes out of a nine-employee company called MetaLinks Communications, based in Rueil-Malmaison, a suburb of Paris, but it is being marketed by Clairefontaine, the French paper company.

Barthélemy Gilles, the chief executive and one of four partners in MetaLinks, was working for a Clairefontaine rival five years ago on bar-code systems and other high-tech uses for paper and ink, "trying to bridge the gap between analog

and digital," he said. But the rival didn't share his vision in the end, so he went off on his own in 2002.

PaperPC, which combines a handful of technologies into a fairly seamless system, is the result. It starts with a fat ballpoint pen whose digital innards come from the Swedish company Anoto. Nokia licenses the Anoto technology and makes the pens.

The "digital paper," made by Clairefontaine, is actually a pad of paper, each sheet of which has a unique, nearly invisible grid on it. The infrared camera in the digital pen precisely records every jot and dot that the pen makes and stores it in memory, with a total capacity of about 70 pages' worth of notes, the unique, nearly invisible grid on it. The infrared camera in the digital pen precisely records every jot and dot that the pen makes and stores it in memory, with a total capacity of about 70 pages' worth of notes, the companies say.

You can write with the digital ballpoint pen anywhere, but only by writing on the special paper can you record what you write. From there, the data can be sent quickly from the pen's memory via a Bluetooth short-range wireless signal to a cellphone or personal computer, or via a USB cable for the old-fashioned.

At this point, MetaLinks technology comes in. Gilles and his team have devised software that compresses the digital notes enough so that they can be transmitted from the phone, just as a text message or e-mail is sent, to a central computer server maintained by MetaLinks, where — in under a minute, in my experience — they become accessible via any standard browser on the Internet.

Yet the files, so-called vector graphics, are also very high resolution, so they can be enlarged to show great detail. Optical character recognition technology from a third French company, Vision Objects, converts your handwriting into type, in several languages, including Japanese and simplified Chinese.

So now you have your notes on paper, on your mobile phone, on your PC and on the Internet, where they can be shared, in both their original form and converted into block text.

Medical professionals, architects, graphic artists — or anyone who works with pen and paper, or needs to share written information quickly — could find this a more convenient system than keeping notes with a hand-held organizer, tablet PC or anything else with a keyboard.

Another possible market for Gilles is companies that use paper forms, like insurance companies and pharmaceuticals.

PaperPC is not just a concept. It is sold by a handful of European retailers, including FNAC, the French consumer electronics chain. A package that includes the Nokia digital pen and four notebooks costs €319, or about \$380. Replacement notebooks range from €8 to €16 depending on the size.

The use of the service is all part of the purchase price; there is no monthly charge from PaperPC unless you are storing more than 15 megabytes of data on its server or unless you send your scribbles by fax or photo multimedia messages, called MMS.

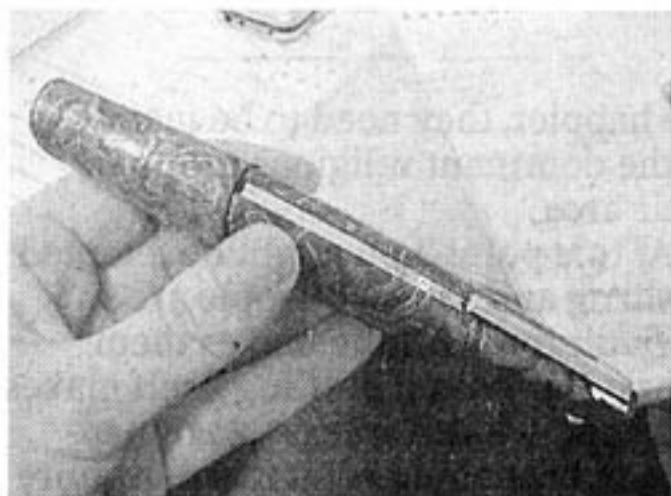
Regular data fees from your mobile carrier apply for the files you transmit to or from your cellphone, but MetaLinks compression keeps the files small.

You have to invest a little time to set up and learn the system.

"Yes, it's complicated," Gilles said, "but it's also accessible. It's like Windows."

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E-mail comments to tech@iht.com.



Victoria Shannon/IHT

The system starts with a digital pen.