

THE HUMBLE PEN HAS BEEN DRAGGED **KICKING AND SCREAMING** INTO THE DIGITAL AGE.

The write stuff

THE PEN MAY BE MIGHTIER than the sword, but it has been losing out somewhat with the advent of email and the web. However, a Swedish company called Anoto, working in tandem with Ericsson, has developed what it calls the Anoto Pattern, a new system that promises to drag the humble pen into the 21st Century.

The device is slightly fatter than your average ball-point pen. This extra space is needed to accommodate a camera, battery, processor, enough memory to store an entire notepad of handwriting and a wireless Bluetooth transceiver. Plus, of course, the usual ink and nib. Remove the lid and you've switched it on. Cap it and it's turned off – as simple as that.

So how does it work? Well, the company has created a virtual sheet of paper half the size of the US, an area of more than 4.6 million km squared that would take 73 billion A4 pages to cover. It then overlaid this area with a fine pattern of tiny dots. This covers the paper without ever repeating itself, with each 0.1mm dot slightly dislocated from a strict grid arrangement.

The system is due for release some time in mid-2001 and by then companies will be able to buy their own 'domain' within the pattern. This could be anything from several full pages to just a small square.

Let's imagine that we are a florist and we've bought ourselves a 100mm square. Within this area we could print an order form for use in the local paper using our square of the pattern as a background. As the reader fills in their address details, the Anoto pen, which must be used for the system to work, would watch the dots passing by, taking 100 snapshots a second and storing the characters drawn. It would also recognise when the user ticked the box for a dozen roses because the pattern enables it to know its exact location within the full 4.6 million km square area to the nearest 0.03mm. Because we are the only company printing with that particular section behind our advert, we could also be sure that it would know the information it was gathering was for nobody else but ourselves.

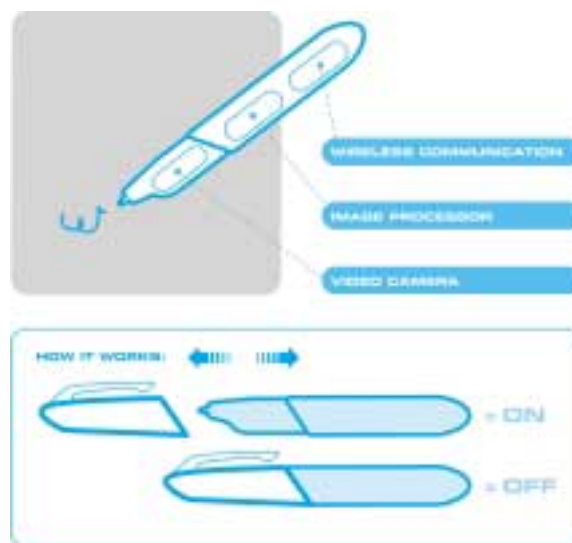
At the bottom of our advert we would print a small 'order' box, much like the 'submit' button on a web form and when the user ticked the area inside it, the pen would enable its wireless

Bluetooth transceiver and send the data to their similarly equipped mobile phone. The pen handles dialling into the Anoto gateway and passes the information to a server connected to the Internet. This interrogates the patterns, works out the intended recipient and passes on the translation as an email, fax, SMS or whatever is deemed appropriate.

Of course, it's not restricted to advertising. Anoto already has a set of standard forms that includes space for phone numbers, so you can write and send an SMS using a pen. The company also has diary inserts that effectively allow you to enter data into Outlook using plain handwriting. You could even draw a map and, by hand-writing an address in a designated box on the bottom of your notepad, send it to your colleagues by email. As the technology develops and matures, so more and more uses will be discovered and developed.

Anoto believes that before the end of 2005 its invention will

be as common as the mobile phone, but to achieve this it needs to make the technology accessible to end users. It plans to do this by making money from the licensing of its paper and hardware technology, yet at the same time making sure that the additional cost passed on to the end user is low enough to keep the device at a consumer-friendly price. If Anoto can pull it off, it'll change the way we view and use pens and paper for good.



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