

apendig

for the digital pen/
paper environment

issue one

DIGITAL FOR ALL

THIS MONTH

A NEW DAWN
ANOTO - INSTANT, INTUITIVE, INDIVIDUAL
CONTENT IS KING
NEWS, VIEWS AND EVENTS

a new dawn

Its not often that something comes along that really makes you stop and think – really think. As a publisher of technology newsletters, and mainly in the Bluetooth area, we get exposed to plenty of new gadgets and products that are supposed to be about to change the world. OK.

We go to a lot of product launches, but in the middle of last year we went to one that did qualify as one of those thought-flow arresting events. This was the official launch in London of Anoto – the company and the functionality. I'm not going to tell you about Anoto in this column, that's what the rest of this publication is about. Let's just say it is about putting digital capability in the hands – literally – of one and all. Well, anyone that can use a pen, that is.

Let it simply be said that you don't need to understand the detail of how it works to recognise the potential. This newsletter sets out to cover what is happening in this area of technology, and the marriage of computing power with the pen and paper. And how a number of previously unconnected industries – paper, pens, diaries, time managers and so on, adapt to working with industries that have been buddying for some time – that's phones, computers and cellular telephone network operators.

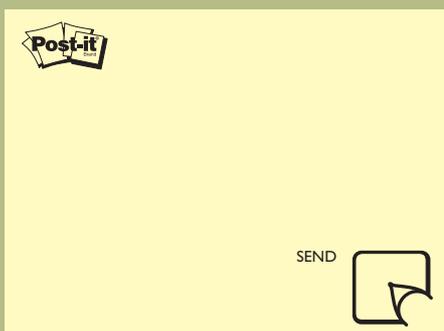
This is new ground for us, and we are using new technologies to make this publication really work for you. We would love to hear your comments, so give us some feedback. Don't be shy!

Vince Holton
Publisher

A WORLD FIRST – REALLY!

This publication is available as an electronic product, and in printed format. The printed version is the first publication in the world to incorporate Anoto functionality. Future issues will be printed on digital paper, allowing us to enable all sorts of dynamic clever stuff.

For now, and for those people that have the printed Apendig and access to an Anoto pen, the Post-it note below, produced by Anoto partner 3M allows you to write your message or draw a funny figure on the Post-it as you normally would, fill out the phone number in the "TO" area and then to tick the 'SEND' box in the bottom right-hand corner and zap your message away over your phone as a graphical SMS message to one of your friends or a loved one.



THIS MONTH

NEWS, VIEWS AND EVENTS

Up-to-date, informative, news and views.

ANOTO - INSTANT, INTUITIVE, INDIVIDUAL

Examining Anoto's viewpoint.

CONTENT IS KING

Paul Rasmussen explores SMS.

M-COMMERCE, SAY HELLO TO BLUETOOTH!

Frost and Sullivan helps you pay

CROSS INDUSTRY COLLABORATION

US pen giant gets digital.

apendig™

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C-TECHNOLOGIES RESTRUCTURES AND ACQUIRES ANOTO

In a dramatic restructuring move, the board of directors of C-Technologies has acquired all of Ericsson's shareholding in Anoto, thereby making Anoto a wholly-owned subsidiary of C-Technologies, and attracted a new line-up of investors.

C-Technologies had previously announced a SEK400 million financing deal with PenMex, a group of Mexican telecoms companies, to provide Anoto with enough money to carry it until it could generate cash on its own. However, the company now says that, while the offer from PenMex seemed right at the time, the board of C-Technologies had been discussing for a long time the option to make Anoto a fully owned subsidiary of C-technologies.

According to Örjan Johansson, chairman of C-Technologies, his company had an understanding with Ericsson, who has been Anoto's largest shareholder, to look at merging Anoto and C-Technologies. "When PenMex approached us with an offer to invest SEK400 million it was hard to refuse. However, the offer would have made it more difficult for C-Technologies to make Anoto a true subsidiary. The board then decided to investigate the potential interest in the restructured company and found, within three days, a group of Swedish investors that were more than willing to provide the necessary finance. In fact they offered more than was needed. It was much easier than we thought."

The restructuring will see C-Technologies acquiring Ericsson's 30% share in Anoto,

thereby making Anoto a wholly-owned subsidiary, while Ericsson will now, with a 24% shareholding, become the largest investor in C-Technologies. Other shareholders will include Capital Group, Christer Fåhraeus, 4:e AP-Fonden, 6:e AP-Fonden, Banco Fonder, Länsförsäkringar, Robur Fonder, SIF, Skandia Fonder and Finn Rausing. Following a general meeting to approve the new structure, Anoto should become a listed company on the Swedish stock exchange.

Johansson added that, while the financing deal with PenMex would be terminated, both companies were keen to remain business partners and discussions concerning Latin American distribution were ongoing.

www.anoto.com

STRONG INTEREST IN BLUETOOTH FROM HIGH- USAGE CELLPHONE OWNERS

A new study conducted by the market research firm Strategy Analytics has found a strong correlation between interest in Bluetooth functionality and the number of cellphone call minutes.

According to Christopher Ambrosio, a senior analyst of Strategy Analytics' global wireless practice, cellphone users who consume more than 120 minutes per week demonstrate a high interest in Bluetooth, while users who make less than 20 minutes of calls per week indicate the lowest level of interest. "Cellular veterans indicate a willingness to pay a considerable premium for a handset offering Bluetooth functionality. Cellphone users with over 5 years of cellular experience are willing to pay a 38% premium

for a Bluetooth enabled handset, equating to approximately US\$30," said Ambrosio.

The study also reported that users aged between 21 to 24 years demonstrated a willingness to pay an average 33% premium for Bluetooth functionality, while interested users aged 65 years or older indicated a willingness to pay only a 5% premium. "This serves as one confirmation of the potential for those in their early twenties to be early adopters of mobile wireless data and Internet services and a potential key target market for mobile operators implementing these services," concluded Ambrosio.

www.strategyanalytics.com

SUPPLY CHAIN CONSULTANTS SIGN UP FOR ANOTO

In an effort to make business procedures easier for the people that use them, the Swedish-based supply chain management consulting firm Establish has agreed to adopt Anoto functionality. The company, which has well-known customers such as Scandinavian Airlines (SAS) and IKEA, said that new collaboration agreements between itself and Anoto covered services within business consulting and system integration.

Establish, which was formed in 1999 through a merger of Svenska Logistikbyrån and the Internet consulting agency On Display, said that presently delivered IT-solutions within the SCM field and the Anoto concept would become an important part of the mobile solutions it offered. "We have initiated the first project that will use Anoto functionality which aims to make daily procedures a lot easier for the people involved," said Marcus Lidbeck, an executive at Establish.

www.establish.se



PALM AND XEROX FIGHT OVER HANDWRITING RECOGNITION PATENT...

A long-standing legal battle between Palm and Xerox over patented handwriting recognition technology looks set to continue. A US Court of Appeal has reinstated a lawsuit by Xerox charging that Palm has infringed its patent in the development of the handwriting recognition system for the Palm handheld computer.

The dispute, which started in 1997, alleges Palm's software for recognising single stroke motions as characters, called Graffiti, infringed a Xerox patent for a technology called Unistrokes. Xerox contends that its researchers developed the Unistrokes software and instigated legal actions in April 1997, four months after receiving a patent for handwriting recognition. Xerox claims that, if successful in court, it could force Palm and other companies to pay a licence fee for each of the PDAs sold that use the Graffiti software.

However, Palm's CEO, Carl Yankowski, maintains that its Graffiti software does not infringe the patent and that Palm has other defences supporting its stance.

"We intend to continue with our strategy to vigorously defend ourselves." Xerox has a history of aggressively pursuing companies that it believes has stolen technology from its labs, especially after seeing inventions such as the PC mouse and laser printer make other firms extremely rich.

...AS ANOTO SIGNS FOR HANDWRITING TECHNOLOGY

Swedish-based Decuma has confirmed that Anoto would be signing an agreement to use its next-generation handwriting recognition (HWR) software in the digital pen technology being developed by Anoto. Decuma said that its HWR software differs from other 1st generation technology by allowing users to write characters as they normally do, without being limited to using an artificial single-stroke alphabet.

Christer Fåhraeus, Anoto's CEO, who admitted that the agreement was very important to Anoto, said, "Decuma's patented GIT (Geometrical Invariant Technology) technology has a number of advantages compared to other methods currently available, and we see significant opportunities for expanding this strategic partnership." The agreement with Decuma, which is a business neighbour of Anoto in Lund, would initially see the Latin HWR software incorporated, although the GIT technology does support input from Chinese and Japanese characters.

Decuma said that its patented GIT software is unique in understanding the importance of mathematics, computer science, languages and usability to achieving successful HWR. According to the company, the small memory requirement makes GIT especially suitable for use within cellphones, PDAs, digital pens and Tablet PCs.

www.decuma.com

ORDERS FLOW

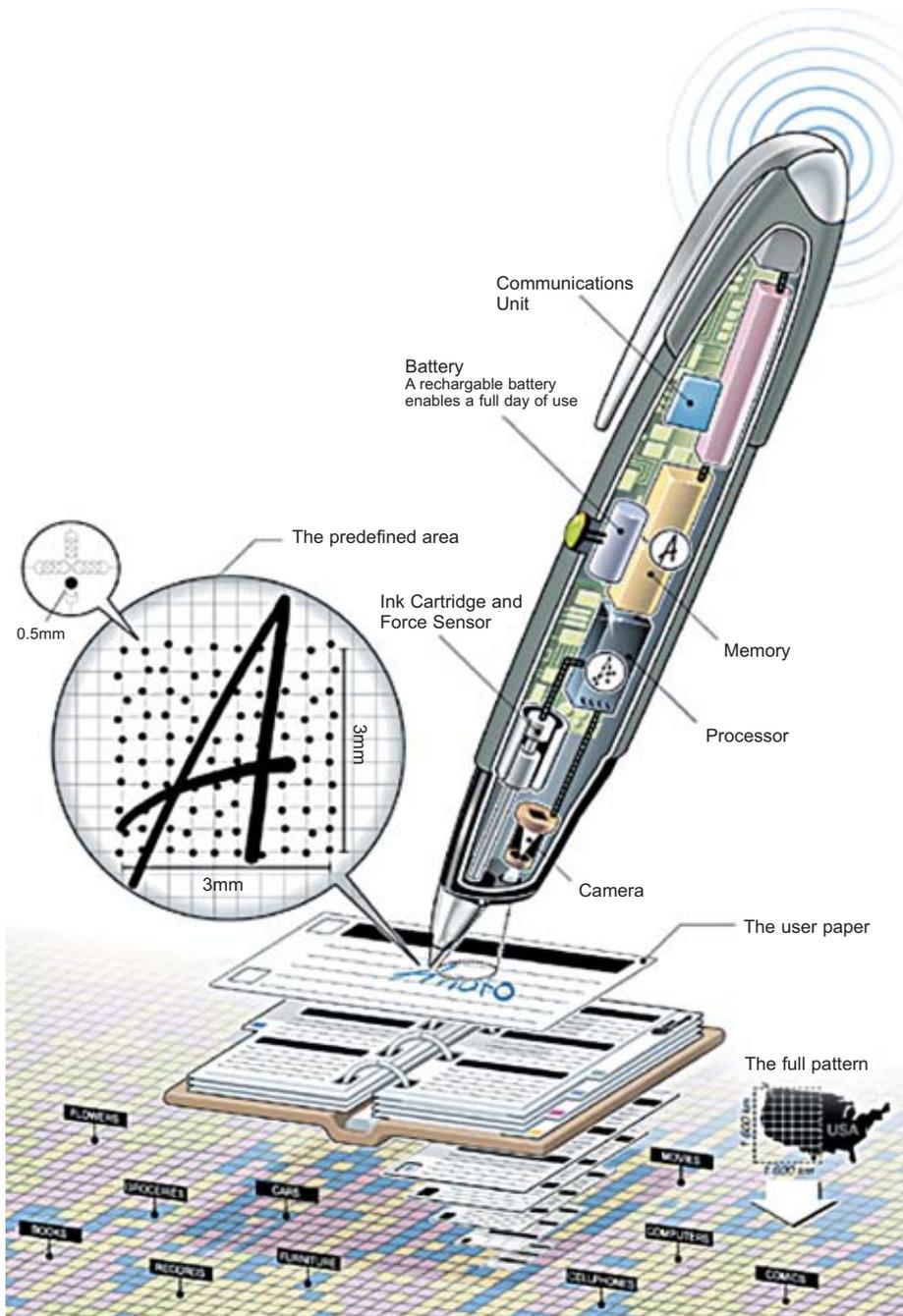
The Korean retailer, Fusion Road, has confirmed an order for 60,000 C-Pen products with C Technologies, the parent company of Anoto. In turn, C Technologies has placed a SEK45 million contract with Swedish-based PartnerTech to manufacture the C-Pen device for onward delivery to Fusion Road. According to Mats Lindoff, president of C Technologies, having worked with PartnerTech for almost a year and a half, the company had come to rely on its high level of expertise and flexibility. "Also, since the Asian market is so important to us, collaboration with an established partner like Fusion Road can be crucial," he added.

www.ctechnologies.se
www.fusionroad.com
www.partnertech.com

AU-System and Anoto have announced an agreement to co-develop services based on the Anoto concept. The deal means that AU-System is now one of the consulting firms that Anoto would recommend to its customers, and AU-System would be offering its customers consulting services based on the Anoto concept. The two companies are already working together with AU-System providing services to Anoto in areas such as Bluetooth qualification. Earlier this year, Anoto unveiled an agreement with Cap Gemini Ernst & Young covering global collaboration based on the Anoto concept.

www.ausystem.com

so how does it work?



According to the company, Anoto functionality is not a digital pen, not a digital paper, but the result deriving from these components. There are several underlying technologies enabling Anoto functionality, such as pen technology, server technology and even paper technology. However, communicating digitally using pen and paper is functionality.

Put simply, a digital pen enabling Anoto functionality is a super intelligent device. It consists of three main parts – a digital camera, an advanced image-processing unit and a communications unit, which might be a Bluetooth radio transceiver. It is held and used like a normal ball-point pen and weighs approximately 45 grams.

Using a digital pen, you write in real ink, and see your notes transported to electronic devices such as mobile computers and PDAs. Or forget computer devices altogether for one moment and send text and graphic SMS messages to friends and colleagues, with the pen delivering your words and pictures via your cellphone.

And then go one stage further still. Sit at home, or in a bar or at work reading a magazine. See a product or offer you like, write on the page with your digital pen and complete a transaction. The next thing that happens is that your purchase is delivered to your door.

Anoto comes to us from Swedish company C-Technologies, the company

that created the C-Pen. This device is a very sophisticated, pen-style scanner that reads printed text and transfers it to computing devices for storage/re-use. C-Technologies has used the experience gained during the design and development of C-Pen to develop the Anoto concept.

Paper provides the other half of the Anoto concept. Wherever the digital pen is used, it writes on ordinary paper printed with a pattern created by Anoto. This paper – with its pattern of microscopic dots that are small enough to be invisible to the naked eye – simply has a slightly off-white appearance.

But this isn't a simple grid. That has been done before. The pattern of dots on a piece of digital paper is a unique design and areas can be associated with a function, service or application. Because the design is different across the paper, the digital pen with its built-in video camera can sense wherever it is on that huge piece of paper. Now imagine that that piece of paper before you is a section of a 'virtual' sheet of paper that covers 60,000,000 km² or an area exceeding that of Europe and Asia combined.

The pen will be able to interpret letters and numbers that are written separately in predefined, specifically dedicated fields. Close to the point of the pen are the optics for the CMOS camera and an infrared LED. Infrared light is absorbed by the dots in the pattern and makes them visible for the camera. Digital snapshots are taken of the pattern at a rate of more than 50 per second.

The image collected through each snapshot consists of:

- X/Y coordinates
- Angle between the pen and paper
- Turning of the pen
- Pressure against the paper
- An accurate time-stamp

The image processor calculates, in real-time, the co-ordinates that will give an exact position in the entire Anoto pattern.

Anoto intends to work towards making the functionality a global de facto standard for digital paper, and has filed over 200 patents covering the underlying technologies and different applications.

Taken from a feature in Incisor, the Bluetooth newsletter. Find this at www.click.co.uk



*Anoto*TM

instant, intuitive, individual

extracts from the Anoto brand book

EVER SINCE THE SUMERIANS DEVELOPED THE ALPHABET NEARLY 6 000 YEARS AGO, MAN HAS USED HANDWRITING AS AN INDISPENSABLE FORM OF COMMUNICATION. THIS WAS AIDED BY THE ARRIVAL OF THE FIRST PENS AND PAPER, FIRST IN CHINA AND LATER IN EGYPT, FROM ABOUT 2,000 TO 1,000 BC. THE INVENTION OF THE PRINTING PRESS IN THE 16TH CENTURY SPREAD THE WRITTEN LANGUAGE AND CREATED A HUGE DEMAND FOR TEXT. AND THE TRANSFER OF WRITING FROM SPECIALISTS TO LITERATE PEOPLES LED TO WRITING AND DRAWING BECOMING AS IMPORTANT TO PERSONAL RELATIONSHIPS AS IT IS TO CONDUCTING BUSINESS.

NOW WE EVEN WRITE TO ALIENS. IN 1977, NASA SENT A RECORDING INTO SPACE ABOARD VOYAGER 1 AND 2 SPACECRAFT IN THE HOPE THAT IT WILL BE USED TO PRODUCE UNDERSTANDABLE IMAGES BY ADVANCED LIFE SOMEWHERE IN THE UNIVERSE.

WRITING IS A NATURAL WAY OF MAKING CONTACT. FOR A WHILE, THE TYPEWRITER AND ITS KEYBOARD OFFSPRING TRIED TO SIDETRACK THE CONVENIENCE OF SPONTANEOUSLY JOTTING DOWN NOTES WHEREVER YOU HAPPEN TO BE. BUT NOW THAT ANOTO HAS PUT THE POWER OF MOBILE WIRELESS COMMUNICATION INTO PEN AND PAPER, YOU CAN EXPRESS YOURSELF FULLY IN THE DIGITAL WORLD.

ON EARTH AND BEYOND, WRITING REMAINS THE PREFERRED WAY OF KEEPING IN TOUCH.



When you zoom off to the shopping mall in your car, who is interested in how everything under the bonnet gets you there? We are sure that end users have the same attitude to digital pen and paper. Our intention is to create an end-user perception about Anoto functionality that is best summed up as:

It's not hi tech
It's not low tech
It's no tech

What we are interested in is communicating the benefits of digital pen and paper. Although the building blocks of Anoto functionality are quite complex, they are not apparent and people do not need to adapt to using digital pen and paper. Therefore our personality is based on natural human behavior.

Using Anoto functionality is as intuitive as using...well... pen and paper.

Anoto functionality is equally intuitive for everyone regardless of age, gender and cultural background. And to help us convey the human touch, we use three main expressions to embody the Anoto brand personality:

- Instant
- Intuitive
- Individual

ENJOY YOUR VALUABLE TIME

INSTANT

Today, time is a valuable asset. And saving time through working more effectively creates a win-win situation for all involved. All of us have become more careful about how we spend our time, and we don't like it being wasted for no good reason. Our attitude in many situations is this: either you assist me in making or doing things faster, or you make me enjoy what I am doing.

Anoto functionality satisfies both demands. Swift communication takes place directly from paper, in any way we chose, and from wherever we happen to be – strolling along a street,, sitting on a train or relaxing on a park bench. Enjoyment comes from communicating in a way that is intuitive and that allows me to express myself fully. Satisfaction also comes from being able to seamlessly integrate business and social obligations with greater freedom of movement.

Anoto functionality makes the most of my valuable time.

ALLOW ME TO USE MY INTUITION

INTUITIVE

How dull life would be if every thing depended on logic. Intuition saves us from being robots. It wells up from some deep mysterious source within us and makes life an adventure. It enables us to make confident decisions where reason falters because it has not been fed with enough concrete information.

Intuition enables us to makes leaps of faith to realize our dreams, to be insightful, and to pass easily through barriers.

When we come to a fork in an unknown road, it is often intuition that prompts us to take the right path at a particular stage of our journey through life.

Pen and paper are intuitive tools that allow us to visualize and share our thoughts, emotions and ideas with our fellow souls.

Anoto functionality promotes intuitive behavior that keeps us natural.

EXPRESS YOUR INDIVIDUALITY

INDIVIDUAL

What unites all the people on Earth? Individuality !Writing and drawing are individual. Your signature is individual. Your thoughts, emotions and ideas are individual. Being individual contributes to the rich tapestry of life. Because we are different we complement each other. We are integrated with a particular culture but our diverse personal characteristics and abilities enable it to be dynamic, thriving and stimulating. Yet although we are part of something greater, we remain our inimitable selves.

But just as importantly, handwriting and drawing are global. Regardless of age, gender and cultural background, pen and paper are used around the world to express people's thoughts, emotions and ideas :to enable individuals to share these with each other.

ANOTO FUNCTIONALITY UNITES INDIVIDUALITY WITH GLOBAL REACH

VALUE PROPOSITION

The Anoto value proposition consists of the three main benefits gained from Anoto functionality and forms the brand-customer relationship.

Functional benefit — Anoto functionality puts the power of digital wireless communication into pen and paper.

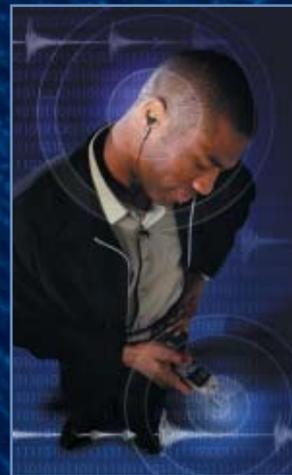
Emotional benefit — Anoto functionality allows me to express myself in any way I choose.

Self-expressive benefit — I am unique and I dare to be myself.

content is king if it's self- generated

Paul Rasmussen explores SMS

THE MANTRA THAT CONTENT IS KING HAS BECOME OVER-USED AND SOMEWHAT INACCURATE. CERTAINLY SOME CONTENT IS VALUABLE, BUT THE WORTH OF MUCH OF THE REST IS HIGHLY QUESTIONABLE – THE HUNDREDS OF SATELLITE TV CHANNELS PROVIDE COMPREHENSIVE PROOF.



what is text messaging?

Text messaging or Short Messaging Service (SMS) is exactly what it sounds like – it allows users to send or receive a short text message that can be up to 160 characters in length via a cellphone. Short messages can originate from other cellphones or the Internet, but they are all delivered via a short messaging centre (SMSC) managed by the network operator.

It is a store and forward service, meaning short messages are not sent directly from sender to recipient, but through the SMS centre. If the recipient's cellphone is out of coverage, in use or turned off, the service holds the message until the cellphone is accessible.

Where content can become of interest is when it's self-generated. This reverses the role of consumers from being mindless viewers or listeners of broadcast content, into individuals generating private 'upstream' content that is destined for a select group of people.

For example: when travelling, an individual may wish to write a short note or sketch a drawing and send this to a chosen number of work colleagues, without the hassle of locating a PC with email capabilities or fax machine.

While the individual can quickly achieve this 'multimedia messaging' using the Anoto functionality, the underlying technology to support this must be totally invisible to the user. Any content generated by the user must be capable of being transmitted securely and without the user needing to be a technical wizard.

Given that this is all possible today using the existing cellular infrastructure, what evidence is available to assure the associated parties that users will adopt multimedia messaging without significant encouragement?

A QUIET REVOLUTION

Whilst a 'TV couch-potato' is a well-recognised trait of being a simple consumer of mass-market content, the idea of self-generated material may appear foreign to many. However, perhaps without being consciously aware

of it, millions of cellphone users are involved in this quiet revolution of generating huge quantities of targeted content by sending short text messages to each other.

The phenomenal growth of Text Messaging – which is close to exceeding one billion messages a day worldwide – has caught the cellphone operators and associated application providers by surprise, albeit a pleasant one. The rapid uptake by consumers and business users of this facility, which is based upon the Short Message Service (SMS) technology implemented by GSM operators, has proved that there is a willingness to pay for a service which provides the user with a simple and easy method to generate messages.

The Anoto concept takes this a significant step forward by providing the user with the ability to send multimedia messages that could include written notes and drawings, using the SMS technology.

A recent study of SMS usage conducted by the market research firm A.T. Kearney reported that, while text messaging had initially appealed as a cheap and handy communication tool for younger generations, it was now being rapidly adopted by adults. According to the company, SMS was now growing most strongly among economically powerful middle-aged cellphone users. For example, in the 35- to 54-year-old age category SMS use grew by 20%, while in

both the 55 to 64 and 65 and older categories, it grew by 14%. Paul Collins, a principal with the firm, commented, "If you regard SMS as more than just a messaging route but as a commercial opportunity, then this trend presents significant opportunities for mobile providers, retailers and marketers."

While the boom in SMS has been seen as something that has happened outside of the US, it would now appear that it is making inroads into this vast user base. A recent estimate said that usage had grown from 8% to 12% among Internet-enabled cellphones, while 30% of users said they were interested in using this method of communication. With many of the world's largest retailers investigating the marketing possibilities of SMS, the natural rise of text and multimedia messaging looks set to continue its upward path.

m-commerce, say hello to bluetooth!

By Michael Wall
Frost & Sullivan

M-COMMERCE LIKE BLUETOOTH HAS BEEN A HOT TOPIC IN THE IT & TELECOMS INDUSTRIES FOR THE PAST FEW YEARS. BOTH HAVE BEEN THE SUBJECTS OF MUCH DEBATE, ARGUMENT AND CONTENTION, BUT SOMEWHERE IN THERE WAS THE FEELING THAT ONE DAY THEY WOULD BOTH FIT TOGETHER SOMEWAY, SOMEHOW.



So what are they, and why do they fit together? M-Commerce can be defined as the enabling of payment transactions via mobile devices, giving consumers access to whatever they want, whenever they want, wherever they are. Bluetooth is a low cost short-range radio technology set to be integrated into hundreds of millions of mobile terminals. With support for 128-bit encryption and authentication security, Bluetooth is potentially one of the most secure wireless technologies yet to emerge. So if we see M-Commerce as the final objective, Bluetooth is a means to that end.

So now we have a means and an end, all that remains is to actually do it. That's where people like Anoto come in, developing applications to bring such concepts into reality. In Anoto's case, one of the most fundamental basic tools of traditional commerce; the pen, has been given a fresh twist for a new way of doing business.

At first it may not seem an obvious choice for enabling M-Commerce, but the pen is one of the most ubiquitous devices in existence, transcending geography, culture and language. Whilst the growth of mobile computing devices has been staggering in recent years, it is nothing to the adoption of the pen. The combination is the flexibility provided by hand written communication coupled with the speed and responsiveness of wireless communications.

Imagine you're travelling on a train, reading the newspaper you see a product advertised that you would like to buy. You don't have time to fill out the form and post it off, or you don't want the hassle of traditional purchasing channels. With the Anoto functionality there is no need, you fill out the form with your digital pen, and then send your order via your cellular phone or via the Internet connection on your computer. The Bluetooth link providing the secure connection between the pen and whatever way you choose to send your request.

The beauty of the Anoto solution is that you don't need to carry a mobile computer or even a cellular phone to use it, all you need is the pen and a link to the wired world. Of course nobody is suggesting this will be easy - there are hurdles to overcome. This scenario requires a major movement in the consumer purchasing paradigm, at a time when consumers are still acclimatising themselves to more established E-Commerce purchasing models, but it represents a major step in the right direction.

The principle behind this idea is not unique, with Symbol Technologies investigating a similar concept that sees the pen become a key ring mounted bar scanner. In this scenario the consumer scans the relevant bar code, before transferring the information, via Bluetooth, to the cellular phone and eventually the supplier.

To the cellular operators the concept is a way to drive data traffic across their networks, as well as taking a share of the revenue from each transaction. The question is whether they are willing to stimulate demand through subsidisation of these products, much in the same way as they have done for cellular phone adoption. For consumer product vendors this represents a new channel, but will they be prepared to pay to enable that channel?

Anoto, and others like them, are taking the first steps to bringing M-Commerce into the consumer space. Some would say that Anoto's functionality is better suited to vertical markets, but it represents a growing awareness that for M-Commerce to happen we need to look beyond individual technologies, and instead focus on how we can combine technologies to produce the desired result.

Michael Wall
Bluetooth Market Service
Frost & Sullivan
www.frost.com

cross industry collaboration

ANY OF US THAT HAVE SPENT TIME DOING BUSINESS IN THE USA, OR HAVE SPENT TIME WITH JET-SETTING REPRESENTATIVES OF US COMPANIES, WILL BE FAMILIAR WITH THE CROSS PEN. ONE, TWO OR EVEN THREE OF THESE SLIM WRITING DEVICES ARE NORMALLY TO BE FOUND IN THE BREAST-POCKET OF ANY EXECUTIVE OF NOTE. WHETHER SPORTING A BADGE BEARING A COMPANY LOGO, OR EVEN IN THE ORIGINAL, UNADORNED CLIP VERSION, THE CROSS PEN HAS BEEN PART OF CORPORATE UNIFORM FOR MANY YEARS.





But there is no reason to believe that time has marched on and left Cross behind. The Pen Computing Group of A.T. Cross Company seems to be determined to make sure that the company maintains a position at the fore-front of written word technology, and that inevitably means having a foot in the digital world.

Today that means that Cross has signed up as an Endorsed Partner with Anoto. The two companies plan to jointly develop innovative new products and services based on the Anoto functionality, looking to provide a natural link between pen and paper and the digital world.

Don't be fooled into thinking that this was Cross' first venture in this area. As far back as 1998, Cross announced the CrossPad portable digital notepad (PDN), which bridged the gap between paper and the PC. The CrossPad, which was developed with IBM's Speech and Pen Systems division, was sold through major computer retail outlets in the USA.

The goal was to transform how users stored, organised and shared notes by writing in ink on a standard pad and uploading their handwriting directly to the PC. Using a specially designed Cross digital pen equipped with a radio frequency (RF) transmitter, users could take notes on a standard 8.5" x 11" notepad affixed to the CrossPad's digital

notepad. Simultaneously, signals from the digital pen were stored as digital notes in the memory of the pad.

The CrossPad stored up to 50 pages of hand-written notes. Digital notes from the CrossPad were uploaded to the PC by connecting a serial cable to the COM ports on the CrossPad and the PC. IBM Ink Manager software displayed the notes on the screen.

Then came the Cross :Convergence pen, which could save up to 300 Web addresses, memorising them from the cues, articles, or bar-codes you swipe. A scanner was built into the top of the pen. A user simply had to press a button, swipe across the cue or code, and when the light blinked, they knew that the pen had stored the information.

Next in line – and a little simpler - was the Cross MicroPen. This had both a retractable ball-point pen tip and a PDA stylus tip, which had a polymeric stylus for the patented "pen-on-paper" feel. The pen was designed to be small enough to fit in most PDA styli compartments.

After a period of time, the CrossPad and Cross :Convergence pen were withdrawn, and today Cross no longer provides these items as retail products.

But life moves on and the CrossPad can now be seen as a complex way of achieving what can be done in a much

simpler and more elegant way using Anoto functionality. A.T. Cross recognises this. Kyle Harding of the Cross Pen Computing Group said "The Anoto partnership is one that Cross is very excited about."

We will look forward to seeing the official update to corporate uniform some time soon, then.

www.cross.com

come together, right now!

No matter how good an idea it has, it's hard to imagine how one company could achieve global success without some help. This is true of Anoto as much as anyone else.

To promote applications based on Anoto functionality, the company has developed a strategy that invites potential partners to participate in close co-operation and information sharing. Anoto's aim is that the multi-partner network will facilitate the integration of products and services from Anoto and diverse partners.

The following is a listing of current Anoto partner companies with a brief description of each company's activities. More detail is available by clicking on the link (📖) below the company's web address.

This listing will be updated as new partners are added. Profiles of partners and partners activities will appear on an ongoing basis.

SERVICE DEVELOPERS

adDoc

adDoc AB develops software that solves the problems of data-communication, collection and management within clinical trials of pharmaceuticals and medical devices. The products are mainly Internet based.
www.addoc.com 📖

Decuma

Decuma develops and markets tailor-made solutions for handwriting recognition based upon its patented Geometrical Invariant Technology (GIT). Decuma's patented GIT method is generic for all languages and has so far been successfully applied to the Latin alphabet, Japanese syllabic writing, and Chinese characters.
www.decuma.com 📖

Matsushita Electric Industrial Co., Ltd

Best known for its Panasonic, National, Technics and Quasar brand names, Matsushita is a world-wide leader in the development and manufacture of electronics products for a wide range of consumer, business, and industrial needs.
www.panasonic.co.jp 📖

Parascript

Parascript provides a menu of products and services to organisations in a variety of industries. By combining the power of ICR, OCR and natural handwriting recognition, Parascript's Total Recognition technology offers a 100% recognition solution
www.parascript.com 📖

Sigma Education

Sigma, which is based on a business area of the former Sigma Group, focuses on business-supporting digital consultancy services for development-intensive customers in a global economy.
www.sigma.se 📖

Sysnet

Sysnet is a specialist in electronic diarying, scheduling and time management. Sysnet creates customised applications and tools for today's leading time manager brands.
www.sysnet.co.uk 📖

PAPER AND CALENDAR PARTNERS

3M

3M is a \$16 billion technology company. With Anoto and Ericsson Mobile Communications, 3M will bring the quick and user friendly communication of the Post-it Note into the wireless, digital domain.
www.3m.com 📖

A'zone

A'zone Corporation Pte Ltd manufactures and distributes high end paper products in South East Asia.
www.azone.cc 📖

AT-A-Glance/Mead

Now a part of the Mead Consumer and Office Products Group, the world's leading planning products brand, AT-A-GLANCE, represents quality planning, organising and record-keeping products for individuals' personal and professional use since 1923.
www.ataglance.com 📖

Charles Letts Ltd.

Charles Letts is clear market leader in the UK with a 40% share of both retail and corporate diary markets. The Letts brand now embraces all sectors of the Time Management product sector from case-bound diaries and planners to wire and ring-bound organisers.
www.letts.co.uk 📖

Chee Wah

Chee Wah Corporation Berhad, is one of the largest manufacturer of paper based stationery products, inclusive of note pads, in Malaysia. It commands a domestic market share of approximately 30 percent.
www.cheewah.com 📖

Daigo

Daigo Corporation is a leading Japanese manufacturer of diaries and has since the start developed an extensive range of paper based products. It sells a total of 25 million calendars, address books, note books and special meeting planners per year.
www.daigo.co.jp 📖

Esselte

Esselte AB is the leading provider of office supplies world-wide. Esselte brings

innovation, efficiency and style to the way people work in the office and at home.
www.esselte.com 📖

Filofax

Filofax ("file of facts") was founded in 1921 and has built a world-wide reputation as the leading personal organiser maker consisting of loose-leaf paper and ring binder mechanism for the ultimate in user flexibility. Filofax products are sold in over 40 different countries and the organisation has wholly owned sales subsidiaries in the UK, USA, Germany, France, Italy, Denmark, Sweden and Hong Kong.
www.filofax.com 📖

Franklin Covey

With a new set of tools and learning solutions aimed at increasing productivity in the digital age, Franklin Covey Co. is a leading, learning and performance services company.
www.franklincovey.com 📖

Grandlux

Grandlux is a stationery manufacturing company specialising in high-end stationery products such as manuscript books, address books, diaries/planners and organisers.
www.grandlux.com.sg 📖

John Dickinson Stationery

John Dickinson Stationery, part of David S Smith (Holdings) PLC, is the UK's leading producer of quality envelopes, books and personal stationery, manufacturing in excess of three billion envelopes per annum.
www.johndickinson.co.uk 📖

Kokuyo

Since 1905 Kokuyo has grown to become the largest manufacturer of office products in Japan. With about 130,000 products and services supplied through a vast distribution network, Kokuyo posted US\$ 2.6 billions in sales during the fiscal year 2000.
www.kokuyo.co.jp 📖

Nippcraft

A diary and calendar company based in Singapore with strong distribution in Great Britain, Australia, USA and the

Asian regions. The company sells 12 million diaries and calendars under the brand names "Collins", "Debden" and others.
www.nippecraft.com.sg

Time Manager International

Created the 'world's first genuine results tool', the Time Manager, in 1975. Since then, Time Manager International has expanded its range of products to include learning programmes and consultancy, books and publications in addition to varieties of the Time Manager tool.
www.timemanager.com

Time/system

Time/system International was founded in 1980 in Copenhagen, and is today considered synonymous with the effective pursuit of objectives, systematic action and optimal time management, in more than 30 countries.
www.timesystem.com

Tjiwi Kimia

Indonesia's leading producer of paper and stationery products. Major products include quality writing and printing papers, one and two sided coated art papers and boards, high gloss cast coated papers and boards and a wide range of converted stationery.
www.stationery.co.id

PEN PARTNERS

A.T. Cross Company

Cross' Pen Computing Group aims to combine innovative design and high quality with new technology. Cross and Anoto plan to jointly develop innovative new products and services based on the Anoto technology. Together, they are looking to provide a natural link between pen and paper and the digital world.
www.cross.com

Ericsson Mobile Communications

Ericsson is a world-leading supplier in telecommunications with the largest customer base, including the world's top 10 operators. Ericsson provides total solutions covering everything from systems and applications to mobile phones and other communications tools.
www.ericsson.com

Mitsubishi Pencil Co

Mitsubishi Pencil Co., Ltd, was founded by Niroku Masaki in 1887 and produces all types of pens, pencils and markers, pencil sharpeners, stamps and a variety of office supplies.
www.uni-ball.com

Montblanc

"Montblanc has been known for generations as a maker of sophisticated, high-quality writing instruments. In the past few years, the product range has been expanded to include exquisite writing accessories, luxury leather goods and belts, jewellery items, eyewear and watches.
www.montblanc.com

Pilot

Founded in 1918, Pilot Corporation is the oldest and largest manufacturer of writing instruments based in Japan. It attributes its success to the quality of its products,

innovation of its R&D teams and support provided by administrative, sales and customer service staff.
www.pilotpen.com

Sanford

Sanford has been making quality writing products for more than 140 years. Today, Sanford is a world-wide leader in writing.
www.sanfordcorp.com

CARRIER PARTNERS

BT wireless/BT Cellnet

BT Cellnet is BT wireless' wholly owned mobile operation in the UK. Today BT Cellnet has approximately 11.2 million customers using its voice services including over 1.5 million customers with Mobile Internet enabled phones.
www.btcellnet.net

Europolitan Vodafone

Europolitan Vodafone is a mobile operator with a licence to build a 3G mobile telecoms network.. The company's principal owner is Vodafone. The Vodafone group is represented on five continents and has around 80 million customers.
www.europolitan.se
www.vodafone.com

Sonera Corporation

Sonera Corporation is an international forerunner in mobile communications and mobile-based services and applications. The company also provides advanced data communications solutions to businesses, and fixed network voice services in Finland and its nearby areas
www.sonera.com

Telefónica Móviles

Telefónica, S.A. is the world's leading telecoms operator in Spanish- and Portuguese-speaking countries, where it has a potential market of over 550 million people, of whom more than 65 million are already clients.
www.telefonica.com

SERVICE PROVIDERS

Cybird Co. Ltd.

Founded in September 1998 in Japan, Cybird Co., Ltd. is a mobile solution company. Since then, Cybird has provided total solutions for mobile Internet web design and system consulting.
www.cybird.co.jp

Speedy Tomato

Speedy Tomato is a subsidiary of Telia, the Scandinavian mobile market leader, which has been leading the development of mobile technology for a long time in Sweden. Speedy Tomato' s mission is "To unlock human potential by making technology social".
www.speedytomato.net

SYSTEM INTEGRATORS

AU-System AB

AU-System is a leading mobile Internet consultancy. The company also provides integrated marketing communications services through its subsidiary SandbergTrygg.
www.ausystem.com

Cap Gemini Ernst & Young

Cap Gemini Ernst & Young is one of the largest management and IT consulting firms in the world. The company offers management and IT consulting services, systems integration, and technology development, design and outsourcing.
www.cgey.com

ECsoft AB

ECsoft AB is an Internet and telecom consultancy, providing advanced services within mobile communication and business systems. The company's customers include several of the biggest Swedish companies within telecom, banking and finance, among others.
www.ecsoft.se

Ericsson Microsoft Mobile Venture

Ericsson Microsoft Mobile Venture, based in Stockholm, Sweden, will drive the mobile Internet by developing, integrating and marketing mobile e-mail solutions to network operators and service providers.
www.mobileventure.com

Establish

Establish is a consultancy firm that develops and implements supply chain and IT solutions. It helps companies streamline their supply and distribution chains using process development and functional IT support.
www.establish.se
www.establishinc.com

Hitachi

Hitachi, Ltd., headquartered in Tokyo, Japan, manufactures and markets a wide range of products, including computers, semiconductors, consumer products and power and industrial equipment.
www.global.hitachi.com

NerveWire

NerveWire is a management consulting and systems integration firm focused on Inter-Enterprise Collaboration. It helps integrate information, technology, processes and people inside their business, as well as with their customers and suppliers.
www.nervewire.com

netMage

netMage is a software company that focuses on developing Pen Content Management solutions for the Anoto pen user. That means netMage takes care of the data that has been sent from the pen and manages it on the Internet/in a web browser for future purposes.
www.netmage.com

Teleca

Teleca is a world class supplier of software engineering services for advanced systems, electronic equipment and applications.
www.teleca.com

TietoEnator

A leading supplier of high value-added IT services in Europe. TietoEnator provides consulting, systems development and integration, operation and support, product development services for customers, and software services.
www.tietonator.com



events

november 2001

Date: November 12-16th

Event: Comdex Fall 2001

Location: Las Vegas, Nevada, USA

Notes: CEO Speaking Opportunity
November 13th, at 2:45-3:15 PM

www.comdex.com

Date: November 15-18th

Event: SHOPA

Location: Miami, Florida, USA

Notes: Anoto's functionality to be seen in
A.T. Cross Company booth 4103

december 2001

Date: December 10-13th

**Event: Bluetooth Developers
Conference**

Location: San Francisco, California, USA

Notes:-

www.key3media.com

january 2002

Date: January 27-31st, 2002

Event: Paperworld

Location: Frankfurt, Germany

Notes:

[www1.paperworld-
premiere.de/pape_ffm0101/?Mlval=frame
sets&page_id=1&language=gb](http://www1.paperworld-premiere.de/pape_ffm0101/?Mlval=framesets&page_id=1&language=gb)

february 2002

Date: February 19-22nd, 2002

Event: 3GSM World Congress

Location: Cannes, France

Notes: Hall 2, stand G38b

www.3gsmworldcongress.com

march 2002

Date: March 13-20th, 2002

Event: CeBIT

Location: Hannover, Germany

Notes:

www.cebit.de/homepage_e?channel=1