Everyone wants to be Steve: An ebook hardware update

Jon Jermey*

Ebook development continues in fits and starts. This article examines the progress that has been made in ebook hardware since the arrival of the Kindle in 2007, describes some of the newer ebook readers that are available, and looks at possible trends for the future.

The evolutionary progress of ebooks has made another dramatic lunge forward with the arrival of the Kindle and its competitors. Is this the final breakthrough? What can we expect to see in the near future as new-style ebook reading devices begin to make an impact on our everyday lives and work? The three aspects of ebook marketing – hardware, software and distribution – are intimately connected, but in this series of articles they are pulled apart in order to try and provide a closer look at what is happening in the ebook world. The first article looks at hardware. Is there an ebook iPod on the way? Is some media-savvy CEO such as Steve Jobs going to capture the popular imagination with a sleek and funky yet terribly compelling must-have reading device?

The struggle for ebook hardware dominance is a four-way competition between a motley crew of new-style, power-economising, dedicated reading devices with greyscale E Ink screens ranged against two old technologies and one new one.

PDAS – VERSATILE BUT POWER-HUNGRY

Let us begin with the traditional multi-purpose Personal Digital Assistants – PDAs, or "palmtops" – represented by devices like the Palm and the HP Ipaq. After a surge of popularity in the 1990s, sales of these devices dropped off, and for a while it looked as though everyone who wanted a PDA already had one. But the incorporation of mobile phone capabilities, along with gradual improvements in screen resolution and memory capabilities, and the addition of features like cameras and wi-fi communications, has given PDAs a new lease of life. PDAs are intended to act as calendar keepers, note-takers, voice recorders, music players, calculators and email devices as well as ebook readers, so they come with a wide range of applications, which can often be augmented by free or commercial downloads. Most PDAs run down battery power fairly quickly, which means they need to spend a lot of time plugged in to a PC or charger, but this may change soon when manufacturers begin to employ the same power-saving E Ink technology in PDAs that we currently see in dedicated ebook readers.

A new PDA costs between $200 and $700 depending on its capabilities. Second-hand PDAs can be found on eBay for between $50 and $500. Virtually all PDAs support Mobipocket software, which displays ebooks on your PDA and can maintain links with an ebook library on your PC (more details will be discussed in the next article). PDAs will also display PDF files and HTML (webpage) files, although not always very legibly, and a mixed bag of other formats depending on what software is installed.

Will PDAs revive? Currently they are being squeezed from both sides: from below by cellular devices like the iPhone, which are rapidly gaining new features; and from above by the smaller netbook PCs described below.

PCs – "JUST NOT RIGHT"?

They have big bright screens and comfortable chairs in front of them; they have fast connections to the internet and massive amounts of storage; there are no batteries to run out and the controls are full-sized and easy to use: why, then, do so many people feel uncomfortable reading ebooks on their desktop PCs?

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Some of the reasons may be psychological. If you associate your PC with work, you may not feel comfortable trying to relax in front of it; on the other hand, if you are a power gamer, you may think you are wasting your time reading a book on your 24-inch screen when you could be slaughtering orcs. Some may be physical – you might just want to get out of the location and the posture in which you have already spent most of the day.

Whatever the reasons, despite some obvious advantages, reading ebooks on a desktop computer has not caught on. The desktop PC still has a role to play, though, as a central repository of media – including ebooks – and a necessary connection point to the internet; at least it had until recently.

NETBOOKS – FOR YOUR (TRENCHCOAT) POCKET?

Netbooks are mini-laptops. A typical netbook PC sells for around $500-900, has a screen from 7-10 inches in diameter and a standard keyboard, uses solid-state electronic memory rather than a hard disk, and includes wi-fi networking and USB sockets for attaching standard PC equipment such as a mouse, printer, scanner or full-size keyboard. Unlike a PDA, it will not fit comfortably into a pocket, but it takes up relatively little space in a briefcase or even a handbag. In theory it can be used as your main computer, but in practice netbooks are used as a convenient way of carrying files around and working on them while away from home base. Like portable TVs 15 years ago, and transistor radios before them, netbooks are moving outwards from the home office into bedrooms, sheds, hotel rooms and caravans, where people can use them at their convenience.

Depending on its operating system – usually Windows or a version of Linux – and given access to the internet, a netbook should be able to display and download ebooks in exactly the same way as a desktop PC. Most netbook screens are much wider than they are high, however, so unless the device can be turned on its side and the screen rotated, or the text broken into columns, the reading experience may not be all it should be. And as with PDAs, power is a problem; unless a netbook is plugged in to the mains, which limits its portability, its battery will give out after a couple of hours.

## DEDICATED EBOOK READERS

Amazon Kindle
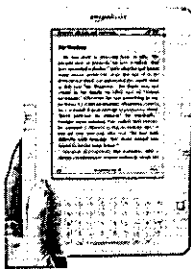
PCs and netbooks beware! Ebook readers now come with built-in cellular connections. This is the "killer app", which has allowed the Amazon Kindle to vault to its number one spot in the United States; and this is also why as yet the Kindle has not taken off in the same way elsewhere. Equipped with these connections, each Kindle is, in effect, a cellular phone. It is a phone that can only call one number – the Amazon distribution site – but that capability allows users to purchase the books they want to read immediately. No time for second thoughts, no consultation with parents or spouse – just type in the search term and press a button. The book is yours; your money is Amazon's. By providing immediate gratification, Amazon has overcome one of the main barriers to book-buying and almost single-handedly started an ebook revolution. Incidentally, it also turns the Kindle into a slow, monochrome web browser. It is not surprising that Amazon is keen to extend its connectivity into other countries, starting with Canada. An Australian Kindle network was set up at the end of 2009; however, uptake seems to have been relatively slow. This is partly because of higher prices for downloaded books and because of legal restrictions that limit the range of books available compared to the American market.

The other hardware-related selling point of the Kindle is its E Ink screen. These greyscale screens, produced by the E Ink Corporation, have become the new de facto standard for ebook reading devices because of their low power consumption. Unlike conventional screens, they only draw power when the display is changed, resulting in a much longer battery life. Photos of E Ink displays show an unimpressive dark grey text on a light grey background, but readers report that the display is quite usable and works well in situations where light is limited. The Kindle can also play MP3 tracks via headphones while book pages are displayed.

Physically the Kindle is not impressive. The original Kindle I design was functional but ugly, with angular corners and odd-shaped buttons. The newer Kindle II is slimmer and more attractive, but a lot of space is still wasted on a full alphabetic keyboard across the bottom, and the screen is a dull monotonic grey. It remains somewhat larger than the average pocket, and the new Kindle DX is larger again, with a 9.7 inch screen. A Kindle II can be bought in Australia on eBay for $344, or ordered direct from Amazon.com for US$259, although – confusingly – Amazon says it will not ship to some Australian addresses.

Sony Reader
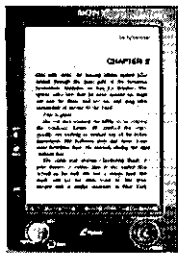
The Kindle's main rival is currently the Sony Reader. This also uses an E Ink display, but is otherwise much more conventional, lacking a keyboard and operating via buttons much like those on a standard PDA. It has no wi-fi or cellular connection, so ebooks must be purchased and downloaded via a conventional PC and then transferred across to the Reader via a USB cable connection. There are several sizes of Reader with different memory capabilities, and they can be bought new for between $300 and $500 on eBay Australia, or for roughly the same price from American electrical goods stores that will ship internationally. The Sony ebook online store, however, is only open to residents of the United States and Canada. Whether Sony will follow Amazon into international waters remains to be seen.

Others

Outside the United States and Canada a large number of different companies are jostling for a stake in the ebook hardware market.

Bebook reader

The Australian booksellers Dymocks has done a deal with the Netherlands BeBook company, offering their Mini reader for $549 (it will be interesting to see how customers react when they learn that the same device is available for $182 less from the BeBook website, including shipping). The BeBook's main selling point seems to be the broad range of formats it offers: unlike book distributors such as Amazon and Sony, BeBook's fortunes depend on its making as many formats available as possible. The BeBook offers wireless connectivity to any local internet hotspot, and touchscreen navigation controls. It also includes an SD card slot to expand its storage capacity up to 32 Gb.

Iriver Story reader

The British iRiver Story reader appears to be a Kindle II knock-off, right down to the keypad across the base. It includes an MP3 player and an SD card slot and reads XLS (Excel) file formats as well as the standard range of text types. No sign of it on eBay Australia, but it can be bought from British electronics sites for about £230.

Nook

The Barnes and Noble Nook is a reading device produced by Amazon's main bookselling rival in the United States. Not yet in production, but announced for December 2009, it is advertised as having wi-fi and cellular connectivity, an E Ink screen, and a smaller separate LCD touchscreen across its base. Unlike the Kindle, the Nook has an SD card slot and a replaceable battery. Nook users will be able to "share" their books with other Nook users – once per book, for a maximum period of two weeks (not much, but one small crack in the DRM copy-protection walls described in the next article). Pictures show a sleek white case with a minimum of buttons. The Nook can be pre-ordered in the United States for US$259; no sign of it yet on eBay.

Hanlin eReader
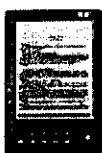
The Hanlin eReader is produced for the Chinese market but supports other languages including English. It appears to be modelled on the Sony Reader and, like the Reader, has recently come out in a mini version to complement the larger original. The Hanlin eReader runs a version of the Linux operating system. It can be bought new on eBay Australia for between $350 and $400 for the large-screen version. It seems a lot, but no doubt they already have their hands full satisfying the domestic market.

Bookeen cybook

The French have entered the reading device market with a device called the Cybook Gen 3, produced by the Bookeen company. There is also a mini version called the Cybook Opus. The Cybook models, like the Hanlin, have no wireless connectivity. It is available in Australia via eBay for around $250 plus shipping.

iREX iLiad

The Netherlands-based iREX iLiad Version 2 is a larger-style reader, with wi-fi, an eight-inch touchscreen and a monaural speaker in addition to a stereo headphone jack. It is being marketed as a note-taking device, and is available from DA Direct in Melbourne for $1,299 including GST. A larger 10-inch display device is available from the same company for $1,599, and some models of the earlier Version 1 are still available (why am I not surprised?) at a mere $1,099.

iPad

After years of speculation, the Apple iPad became available for consumers in the United States on 12 March 2010. It is expected to arrive in Australia in April. Along with many other applications, the Apple iPad will also support the iBookstore system already in use on Apple iPhones, whereby electronic books can be downloaded directly or via an internet connection. There is little information at present about how it all works, but I hope to be able to cover this in a later article.

WHAT HAPPENS NEXT?

Are ebook readers evolving? As we move into the second generation, the Kindle certainly has a sleeker look, and most models are showing some improvements in internal memory. Another new feature is a movement-sensitive inertia switch, as found on the Nintendo Wii – not for playing virtual tennis, alas, but to sense when the device is turned sideways and to adjust the screen accordingly. Is this important? I do it manually on my PDA quite often, but I am not too sure that I want it done for me. Time will tell.

Developments in the ebook hardware world will depend on both software and distribution methods – see the following articles for that. The main hardware issues as I see them are: first, how many other businesses and countries will decide to try and enter the market; secondly, whether prices will continue to drop or whether manufacturers will try to hold prices steady and add features instead; and thirdly, the related issue of whether ebook readers will converge with other forms of technology. Most of them already incorporate MP3 players; will manufacturers try to add value by adding a camera or a phone, a scheduling program or a word processor? In other words, will ebook readers retain their individuality or will they eventually become just another subset of PDAs? History suggests that convergence usually wins in the end.

In the next article, current events in the world of ebook software are described; and in the third, a variety of distribution models is discussed, from the points of view of both the consumers and the producers of books.