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COMMENT: Are e-books finally challenging the paperback?

What will the future hold for the book

by Stuart Miles published on 4 July 2008

With the announcement that universities in the US are looking to distribute textbooks via e-books rather than the tower of paper we were all used to, is it time for the e-book to make its way into the mainstream?

But who are the runners and riders, what does the future hold, and is it the end of the paperback as we know it?

Let's quickly look at what an e-book is before we go on to see which e-books are leading the pack in the market.

All the devices here use a technology called E Ink. E Ink is a type of electronic paper manufactured by E Ink Corporation.

Basically electronic ink displays are made up of millions of tiny microcapsules, about the diameter of a human hair. Each microcapsule contains positively charged white particles and negatively charged black particles suspended in a clear fluid.

When a negative electric field is applied, the white particles move to the top of the microcapsule to become visible to the reader. This makes the surface appear white at that spot. At the same time, an opposite electric field pulls the black particles to the bottom of the microcapsules where they are hidden. By reversing this process, the black particles appear at the top of the capsule, which now makes the surface appear dark at that spot.

To form an E Ink electronic display, the ink is printed onto a sheet of plastic film that is laminated to a layer of circuitry. The circuitry forms a pattern of pixels that can then be controlled by a display driver.



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This in the real world means a number of things, but most importantly that you don't get the glare normally associated with LCD displays, and additionally battery power is only needed to change the microcapsules on the display you can achieve greater battery efficiency.

So what are the players (or should I say readers) in the market?

Sony Reader Digital Book

The Sony Reader has been available for some time in the US and slowly starting to appear in the UK. One of the first commercially available, the latest version, the PRS-505, sports 64MB of memory as well as the option to expand that memory via Sony's own memory card format - Memory Stick - or an SD card.

The screen, 6-inches, uses E Ink as with others available on the market and this means that the Reader can promise 7500 page turns from one charge. Where the Sony Reader is praised is in its support for the PDF file format beyond the TXT and RTF.

Priced around £200- 250, although a shaky start to availability, the PDF support means there is plenty of appeal here to users beyond the book market for displaying magazines, pamphlets and other documentation.

iRex iLiad reader

Available in Borders in the UK, made by dutch electronics company iRex, the iLiad Book Edition comes with a much bigger 8-inch screen.

Like the Sony Reader, the device features an expandable memory card slot, however by the virtue that it is a newer device it can support memory cards up to 8GB in size giving you the chance to store a whopping 10,000 books. That's more than most local libraries or even small book stores. Imagine having your entire shop in a device in your briefcase.

Like the Sony Reader the iLiad supports a number of file formats beyond Rich File Text and PDF. Why? Well because it allows you to share HTML text (i.e., websites) as well as images, and although it, like the other devices that use E Ink, don't currently support colour it means you'll be able to look at diagrams or black and white images.

Considerably more expensive than the Reader at £399 the mere fact that Borders in the UK has taken the device in its larger stores suggests that the e-book is gaining traction in the UK.

Although iRex don't publish how many page turns you get from the iLiad, they do suggest you'll be able to get 14 hours of reading from a single 3-hour charge.

Overall if your looking to carry around more content than you could possibly read, the expandable memory is going to help, but how many books do you read at once? It's not like a music collection where you dip in and out is it?

The Bookeen Cybook Gen3

Bookeen, one of the smaller players in the e-book market gets its name from the verb "bouquiner", which means "to read" or "to browse in a bookstore". Its player, the Bookeen Cybook Gen3, is currently available from Pixmania.co.uk.

It is a 6-inch e-book that comes with 512MB of storage on-board and again the ability to expand the memory further via its memory card slot.

Supported formats include HTML, TXT files and PDF and trying to appeal to the youth market perhaps more than the competition it also features an MP3 player.

You'll get 8000 pages per charge and the small size and MP3 player support, although basic, means that this might make it an ideal choice for holidays allowing you to listen to your favourite music and read at the same time. It is also likely to open up the possibility of more interactive books that rely on sound to help surround you in

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the story.

The Kindle

Probably the one you've all heard about. The Kindle from Amazon is the internet bookstore making sure that it doesn't lose out in the digital landscape that is fast appearing all around us.

Many industries have learnt from the mistakes the music industry made with the rise of the MP3 and it's clear that Amazon doesn't want to lose its share of the book market.

Currently only available in the US, the Kindle allows you to download books on the fly as long as you are in coverage. Due to the size of the files the wireless connectivity is offered for free rather than as a subscription service and the online bookstore offers over 130,000 books. In addition to this Amazon says it offers almost 90% of the New York Times Best Sellers List.

Furthermore the device also offers free access to Wikipedia, the online free encyclopaedia, meaning you're never too far away from an answer to a question.

And using that wireless connectivity further users can also get RSS subscription to select blogs, although these are chargeable.

Finally any book you do buy from Amazon for the device is registered so if you lose your Kindle you can get another with the same books you had.

However it's not all rosy, the device doesn't currently openly support PDF files in the same easy way as the others and the Kindle has no way of expanding the memory available beyond the 180MB you get on-board.

Talking to Amazon in the UK there are currently no plans to bring the service to the UK, although a company as cagey as Amazon, this could mean they are launching it next week.

Overall it is an interesting start and the ability to buy books on the go will be very interesting for the market - the company even offers a service for publishers to offer books straight to the download service with Amazon taking a cut, but allowing authors to cut out the publishers altogether, however the wireless will affect battery and the lack of PDF means it's not as easy to add your own content.

So that's what's available now, but what about what's coming up? Here are just some of the concepts on the horizon.

Readius

The Readius from Polymer Vision made tech headlines in January with the announcement that they were going to launch an e-reader with a pull-out e-paper display.

The size of a voice recorder, the device's 13cm fold-out black and white display is clear and very legible and will offer 30-hours of battery life and web browsing. Information will be loaded via a portal.

But where it is exciting is that it's a screen that folds out meaning you get the benefits of a large display in a device that is small.

The device, like the Kindle, will be connected and offer calling features, email, audio books and RSS feeds will be pushed to the device.

No pricing or exact availability has been announced as yet but it is a reality - I've played with one - rather than a pipedream.

HP e-book reader

Other companies like HP are also developing e-books. The size of an A4 sheet of paper, users will be able to pull book pages across by hand in a similar way to many Flash-based book reading online sites.

The e-book reader runs on Linux, with HP Labs specific software, and books are transferred via USB, although HP has said they are working on a

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connected model.

Tied in with the company's photo sharing website, Snapfish, you'll also be able to show off your albums on hot swappable media, however shunning the PDF format due to readability issues, HP has developed its own media file format for the device.

Currently not in production, HP built a number of units to test with companies and a small beta programme.

Other concepts

Meanwhile other companies are looking into a two-screen approach giving you a more traditional book feel. The concept device will turn pages either at the press of a button or by closing the book briefly. The two pages will also be able to be separated or used to display one page portrait and the other landscape - ideal for books with plenty of large diagrams or images not wanting to be constrained by the standard portrait format.

e-newspapers

Likely to start coming next year, the content could be downloaded at a set time each day and save on print and distribution costs.

Imagine a book of the week being pushed to readers rather than relying on them to come into a bookshop and buy something.

Netbooks

And then there are Netbooks. Laptops have been expensive until recently when a number of companies including HP, Asus, Acer and Dell have created a new category called the Netbook.

The new range of cheap laptops all priced around £200 to £400 are aimed at offering email, web and a word processing on the go.

They are important to bear in mind because its yet another avenue that an e-book will be able to be read on, and while they don't have an E Ink

screen we are likely to see the consumption of information move onwards and upwards.

So are we likely to see the ebook replace the paperback? Not at the moment. While the technology is promising, especially for university students who will be able to buy or be given a device full of all their course's text books, the price will have to come down considerably from the £200-400 price mark for it to be appealing in any shape or form.

Then there are the problems of using an electronic device in places we normally read: an airplane, the bath, on the train. Aeroplane laws suggest you turn off all electronic equipment for take off and landing (i.e., the boring bit without on-board entertainment), while I wouldn't go anywhere near the bath with something that could kill me if I dropped it. Then there are the security issues of using a £200 device on the train openly that's not in a pocket - hello Mr Thief.

That said, for those who like to consume books by the hundreds, the ebook reader will be a viable option to have them at your fingertips rather than needing to carry a massive tome of a novel in your bag wherever you go.

But there could be a side effect that we haven't thought of? The Gutenberg Press made books and thereby information available to everyone because the material it was printed on was readily available.

If you put a £200 price point in the way, will the ebook make books only accessible to a select few?