

# E-books: Finally there?

*Jan Engelen*

Katholieke Universiteit Leuven, ESAT-SCDocarch  
Kasteelpark Arenberg 10 box 2442, B-3001 Leuven (Belgium)  
jan.engelen@esat.kuleuven.be

## **Abstract**

Widespread distribution of electronic book readers, commonly called “e-readers” seems to have taken off seriously over the last year. Although the first e-readers popped up almost twenty years ago, last year’s market appearance of a completely reworked Amazon Kindle 2, a new series of Sony PRS readers and several Bookeen & Cybook devices made e-books quite popular. All of them can store thousands of books, are extremely light weight and very mince. However, many of them present problems for persons with low vision or blindness. We will discuss briefly the situation and possible solutions.

**Keywords:** electronic books, e-books, Kindle, print impaired persons

## **1. Introduction**

One of the major recent e-book reader improvements is linked to the display technology: so called e-ink pages [1] are using battery power only during a text change; in between, their consumption is almost nil. Battery life for these devices now routinely extends to one or two weeks. However, e-ink screens do not produce light: one needs ambient lighting on the screen to see the text.

E-books (as opposed to e-book readers) have yet to gain global distribution. Amazon provides a huge amount of e-books, but only in their own (Kindle) format and up to now only in English. Publishers in other languages often prefer the more open ePub format (e.g. BE & NL).

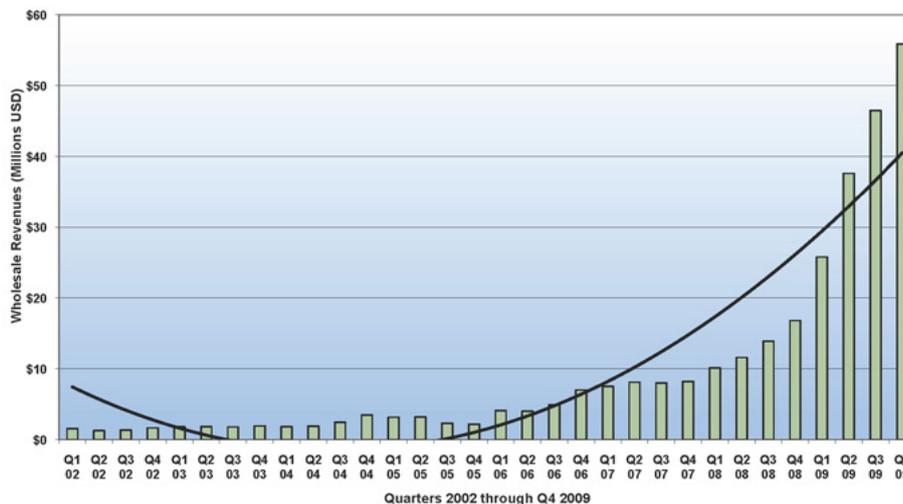
Furthermore, not all authors have endorsed the concept of electronic publishing. J.K Rowling, author of the Harry Potter series, has stated that there will be no e-versions of her books . . . [2]

E-books can easily be obtained from many internet bookstores. Two bottlenecks do remain, however: their price (still often at almost the same

level as printed copies) and a copyright protection mechanism that hinders changing the electronic format of a book (e.g. when a person buys another brand of e-reader, previously bought e-books become unusable).

E-books and audiobooks have been discussed at previous ELPUB conferences [3]. Therefore this contribution focuses on recent developments only.

The International Digital Publishing Forum (IDPF) provides impressive statistics on the booming US e-book industry (cf. Fig. 1). [4]



**Figure 1. US book industry (2002-2009)**

## 2. E-book formats

Current e-books are made to several different standards with their own advantages and disadvantages, which will briefly be described below.

Besides popular formats such as HTML, RTF and PDF that can be read by all e-book readers, following major e-book standards are commonly used [5]:

- Amazon Kindle has his own format, loosely based on an older French Mobipocket format
- Sony uses the **ePub** format (Open standard for e-books)
- the Cybooks use an Adobe protected PDF format

Except for public domain books an encryption feature (Digital rights management) is used on all e-books.

### **3. E-book distribution**

Evidently most e-books simply can be downloaded from the Internet.

As Internet was not yet routinely available when travelling (and therefore buying books on the move was not possible), Amazon decided to distribute the Kindle books through Whispernet which is based on mobile network technology (3G, EDGE...). The cost of the data connection is covered by Amazon (and constitutes part of the e-book price). Up till last year it was impossible to download books within Europe where Amazon's Whispernet was not available. Since then agreements with EU mobile providers have been made.

### **4. Using e-book readers as audiobook or talking book devices**

Starting with the Kindle-2 [6] in 2009 a text-to-speech module has been incorporated in an e-reader device. This feature permitted to listen to the text and was very much appreciated by print impaired persons (persons with low vision, blindness, dyslexia or a severe motor handicap). Unfortunately this possibility was turned off soon after by Amazon unless the author had explicitly agreed with it or if public domain books (=old) are read. In practice the ban on text-to-speech output was almost general.

This led to several US cases in court (e.g. National Federation of the Blind *vs* the Arizona State University that planned to provide university course material in Kindle format only).

Another bottleneck is commanding the e-reader itself. Up to now no auditive feedback was produced when choosing commands on the device. But at the end of 2010 a new Kindle will become available in which the speech output can be used for accessing the menu functions and an extra large font will be added so that the device is more usable for persons with low vision. However nothing apparently will change for the text-to-speech locking for most books...

### **5. Daisy format e-books (and audio-books)**

For use within the community of print impaired persons an e-book and audiobook standard has been developed almost 15 years ago. The Daisy

format not only links the text to the audio version of the same book but permits also an extensive tree-like navigation through the document. This results in easy jumping to parts of the book, including up to the sixth level in a table of contents. Furthermore Daisy permits to produce several kinds of e-books such as text-only, audio-only, text & audio, text & images etc [7].

Daisy is promoted by the Daisy consortium and their standards are nowadays recognised by international bodies [8].

Daisy books technically consist of a collection of computer files that can be stored on a CD (very popular as it can be read with a portable CD player) but also on any other computer medium including SD-cards (popular for pocket size readers) and simply via the internet.

Despite a decennium of efforts the Daisy standard is still not in use outside the field of print impaired users. To make it more popular several open-source software solutions have been developed. So it is possible to produce a Daisy talking book directly from within Microsoft Word [9]. Within the European Aegis project three add-ons for OpenOffice.org (file extension: \*.odt) have been developed at K.U.Leuven [10]:

- an *odt* to Daisy convertor
- an *odt* to Daisy talking book convertor
- an *odt* to Braille convertor – still under development

The Daisy Consortium itself focuses on

- DAISY Online Delivery Protocol: this is basically a definition of SOAP messages permitting easy web-based content provision [11]
- Daisy version 4.0: this standard will permit an easier transfer of e-books and talking books to the ePub format (mentioned in section 2)
- copyright protection for Daisy books.

Up to now such protection was deemed unnecessary as special equipment or software was needed to read a Daisy book.

## **6. Conclusions**

It can be stated that the market of e-books and e-readers finally has taken off. Although the phenomenon in general terms still remains a byproduct of standard and traditional book publishing, new applications e.g. for print impaired persons seem to be growing. But a tough copyright hurdle is still to be taken before e-books routinely also will become audio or talking books.

## Acknowledgements

The author would like to acknowledge the help of the Aegis and Kamelego projects in preparing this contribution. Furthermore the support of the Kath. Univ. Leuven is highly appreciated.

## Notes and References

- [1] Details at: [http://en.wikipedia.org/wiki/E\\_Ink](http://en.wikipedia.org/wiki/E_Ink)
- [2] This statement is based on fear for piracy. Ironically enough, all Harry Potter books have been turned (illegally) into e-books within hours of the release of the printed version. More on:  
<http://www.bradsreader.com/2009/01/jk-rowling-harry-potter-ebooks-and-the-definition-of-irony/>
- [3] ENGELEN, J. Marketing Issues related to Commercial and Specialised Audiobooks, including Digital Daily Newspapers, ELPUB2009. *Rethinking Electronic Publishing: Innovation in Communication Paradigms and Technologies - Proceedings of the 13th International Conference on Electronic Publishing* held in Milano, Italy 10-12 June 2009 / Edited by: Susanna Mornati and Turid Hedlund. ISBN 978-88-6134-326-6, 2009, pp. 621-624; ENGELEN, J. A Rapidly Growing Electronic Publishing Trend: Audiobooks for Leisure and Education, (Electronic Publishing conference - ELPUB-2008, Toronto, June 26-27, 2008), published in *Open Scholarship: Authority, Community and Sustainability in the Age of Web 2.0*, Edited by Leslie Chan & Susana Mornati, ISBN 978-0-7727-6315-0. Both papers are available electronically from [elpub.scix.net](http://elpub.scix.net).
- [4] More trend figures and numbers can be found at:  
[http://www.idpf.org/doc\\_library/industrystats.htm](http://www.idpf.org/doc_library/industrystats.htm)
- [5] [http://en.wikipedia.org/wiki/Comparison\\_of\\_e-book\\_formats](http://en.wikipedia.org/wiki/Comparison_of_e-book_formats)
- [6] Details at: [http://en.wikipedia.org/wiki/Amazon\\_Kindle](http://en.wikipedia.org/wiki/Amazon_Kindle)
- [7] <http://www.daisy.org/daisy-technology>
- [8] Daisy 3.0 is in fact an ANSI standard, "ANSI/NISO Z39.86 Specifications for the Digital Talking Book"
- [9] Details on: <http://www.daisy.org/project/save-as-daisy-microsoft>
- [10] Details on: <http://www.daisy.org/project/save-as-daisy-openoffice.org>
- [11] Details on: <http://www.daisy.org/projects/daisy-online-delivery/drafts/20100402/do-spec-20100402.html>