

## Experiences with Publishing, Reading and Reference with the Kindle

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### Overview

By now, you've undoubtedly heard about the [Amazon Kindle](#) digital book reader with wireless connectivity. Three days with Kindle have left me both excited and disappointed. For Learning, the idea of bringing together small, light digital books and audio and wireless connectivity offers tremendous capabilities and potential.

For me at least, the Kindle seems far less ready for widespread adoption than this year's other big gadget: the iPhone. The bottom line is that Kindle is interesting and innovative, and some software updates will help, but hardware design issues need to be addressed for widespread adoption and success.

The Kindle is quite a capable digital book reader, but has its flaws too (more opinions on perceived flaws will come later in this review). Kindle also introduces a business model with a twist; there is no charge for its built-in 3G cellular mobile data technology. The cost of data transfer is factored into the cost of the device and the content. Since the content is digital, it is already cheaper than the typical cost of a popular paperback or hardcover book. Amazon, ultimately being a book store, got the "store" part VERY right. Including 3G wireless with no monthly fee is quick, seamless and awesome.

An obvious use of Kindle for Learning is to consolidate and streamline the use of materials from traditional publishers, but what about custom content?

### Publishing to Kindle

Any Kindle owner can publish straight to their Kindle by sending a Word or HTML document attachment to an email address ("owner-name"@kindle.com). Common image formats can also be converted (PNG is preferred, but JPEG, GIF and BMP will work - no TIFF, though, sorry!). The attached document is converted to the native Kindle format (.amz - an optimized format with digital rights management) and automatically sent to your Kindle at a cost of 10 cents (\$0.10 USD). As a test case, I created a simple 44K Word document out of the Learning 2007 Audience Polls from the [LearningWiki](#) and waited about 5 minutes for it to show up on my Kindle as a converted document.

Word documents with embedded images are converted with the images in place. You can also do "no charge" publishing by sending the document to a special email reflector ("owner-name"@free.kindle.com). The "free" conversion results in you receiving a reply email that contains a URL link to the converted content on an Amazon server. Just click the link and download the ".azw" file to your computer. From there, you can copy it to the Kindle using a USB cable or by putting your content on a SD/MMC memory card and inserting it into the back of the Kindle. It took literally 2 minutes round-trip from sending my email to receiving their response. Getting my downloaded converted document on the Kindle the first time took another 25 minutes and tech support call. Next time, should take 4 minutes flat.

[Tip: The manual wasn't clear on copying content via memory cards. You need to power off the Kindle, insert the SD card, power on and reset. Let the Kindle create folders on the SD card. Power off the Kindle and eject the SD card. Use your computer to copy content to the newly-created folders on the SD card, such as music, documents, etc. Reinsert the card into the Kindle, power-up and reset again. Voilà! Content.]

### Power Publishing

Another publishing option is to sign up with the Amazon Digital Text Platform (DTP) program to sell or distribute your content. In just 3 minutes, I signed up as a publisher after I gave them the address, tax ID and banking information needed. With that, I was ready to publish and register my own titles for the Kindle and get about 35% of the "cover" price. You can learn about the DTP program by visiting <http://dtp.amazon.com> for details. The community forum there has more details on [supported file formats](#) and [layout formatting tips](#).

The DTP program has a convenient Preview function. Content from Microsoft Word doesn't always convert as one might expect (via email or DTP). Likewise, a subset of HTML and Cascading Style Sheets (CSS) is used, so you may need to play around a bit with formatting and pick up tricks from the forums. Adobe Acrobat (PDF) conversion is still experimental and, for me, it did weird things with some headers and footers. Your best bets might be to only use simple documents or try the free (Windows only) [MobiPocket Creator](#), which will at least let you preview results locally.

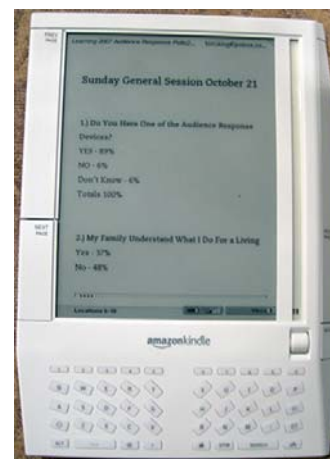


Figure 1 – Sample User Content Converted for Kindle

Regardless of the document source format, one annoyance is the odd location referencing system. The formatting re-numbers your document, so page numbers and sections become irrelevant, if not useless. Your best bet is to make links in a hand-crafted table of contents (or give your users clear, unique markers to search for in the document). You can “Go” to a location in any document that’s been converted or purchased, but all you can do is speculate on the numeric reference (it’s not a page, chapter section or anything else).

All published content appears in a modern serif font called Linotype Caecilia. System menus and message are in Sans-Serif Helvetica. The books don’t seem to use the publisher/author-specified fonts or typefaces and always appear in Caecilia. I purchased *A Whole New Mind* by Dan Pink, and an example in the book asks the reader to identify, Times New Roman, Arial and Courier. On the Kindle, all appear in exactly the same Caecilia type.

### The Reading Experience

Where the iPhone fell short for me was in software, which has since been updated and that process will likely continue. In the case of the Kindle, it is the hardware that fell short.

The device itself seems like it was carefully crafted and reasonably responsive, but just doesn’t quite have the right fit or heft. The unit is a lightweight plastic with a rubberized panel in the center back panel. Downloads happen quickly and the experimental web browser seemed to be throttled by page redraw times for the e-Ink and browser rendering (rather than connection speed). I never had trouble with radio reception for the data in the Seattle area. Documents and books download wirelessly in seconds or minutes.

The screen is reflection-free and flicker-free when displaying a page. When turning a page, there is a brief full-page flash as it redraws. One quickly becomes accepting of that flicker and it soon seems as innocuous as a cross-fade between scenes on TV. The screen contrast of 4 levels of gray and a choice of 6 font sizes is easy on the eyes. The screen is not backlit and that in itself may contribute to the comfort and reduced sense of eye fatigue. Taking a break any time in any book is no problem, as it always resumes where you left off, regardless of what other documents or books you may have browsed in between.



Figure 2: Amazon Kindle

Reading on the Kindle seems both an intellectual and a physical activity: when I try to hold it for reading 2-3 chapters, my hands get tired. Practice helps and one adjusts, but something is not quite right. I find that I often hit a button by accident when I’m just trying to adjust my hold on the unit. The paging buttons run the full length of the display on both sides, and the “back” menu button extends still lower on the right. The buttons are touchy and easily depressed, taking up key real estate. Look at this sample photo from Amazon:

Notice in the photo that the right index finger near the knuckle is already pressing “Next page” (labeled Page Forward), and where that same finger joins the palm is pressing against the “Back” menu button (unlabeled in the image). Similar challenges surface in a different way with the keyboard, which is awkward to hold and type on with a clicky, imprecise feel. Oddly, the power buttons are on the back and far from an edge - not easy to see or use - especially when Kindle is in its carry case.

Ironically, my first choice of a book (*A Whole New Mind*) for the Kindle is a title that addresses use of *both* the left brain and right brain. That book and its emphasis on design complimented my Kindle experience to drive home the value of great design, which I find the Kindle is lacking.

### Reference

Footnotes and endnotes seem to work to varying degrees based on the book. In the case of *A Whole New Mind*, the footnotes just didn’t work. When I puzzled over Dan Pink’s reference to *Manichean*, the built-in dictionary didn’t find it, but hitting “Search” instantly yielded a Wikipedia result. Looking something up is as simple as using the roller on the right to line up the silver cursor with the desired line, then pressing in on the roller to select the line. That brings up another menu, which in turn allows you to pick the terms on that line (but not the footnote in this case).

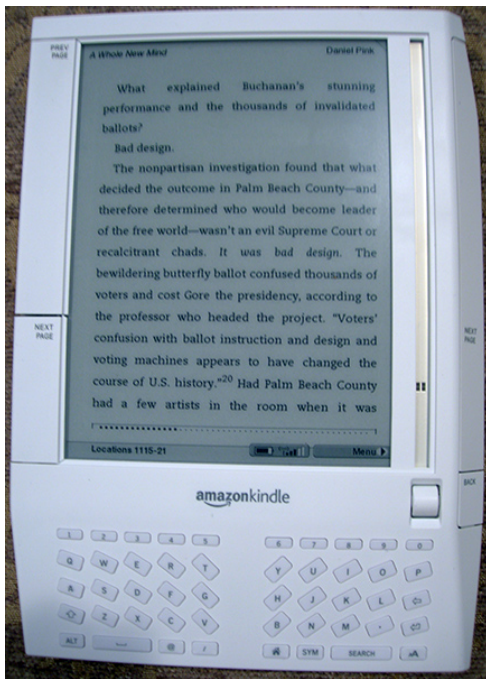


Figure 3: Kindle with cursor positioned for look-up

Using this UI controller made me crave a few more specialized keys, customizable short-cuts or something to the process of getting to what I wanted faster. Instead, I felt like I was using character-based menus from VisiCalc or Lotus 1-2-3 from 24 years ago, foraging for a choice without knowing the exact sub-menu where it might live.

As a reference tool, the hard key for “Search” helps, but there is a noticeable lag after each key press so I felt disinclined to search unless it seemed really important. That said, it seems incredibly powerful to search across all the books on the Kindle.

I can imagine uses of ruggedized Kindle-like devices as electronic maintenance or repair manuals. Such devices would be instant-on, lightweight, comprehensive and up-to-date thanks to the wireless connection. They would be more task-focused and stable than a computer in many ways.

Kindle includes an experimental web browser that will undoubtedly be updated and improved. Currently, it is best suited to text-driven sites or sites intended for mobile devices because of the performance issue of the page-rendering technology and the limits of the 2 bit gray scale (4 levels) display. However, it does well in a pinch. Here’s how the Masie Center web site renders in the default (basic) mode of the Kindle browser.

All in all, the Kindle is a great effort and auspicious evolution of the e-book that will hopefully lead to still more promising innovations and devices.

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<http://www.masie.com>

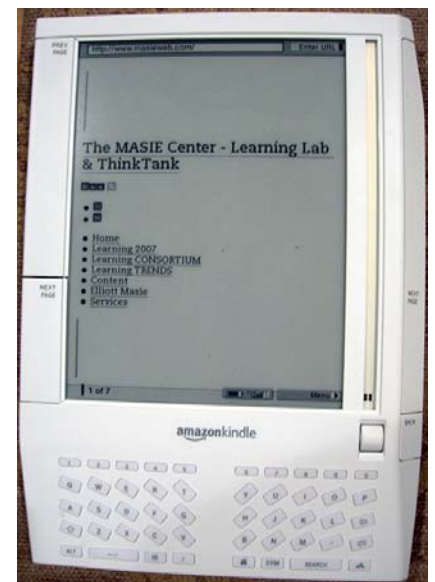


Figure 4 - Masie Center Web Site Displayed on Kindle