

Dubberly Design Office

Understanding Typography on Kindle

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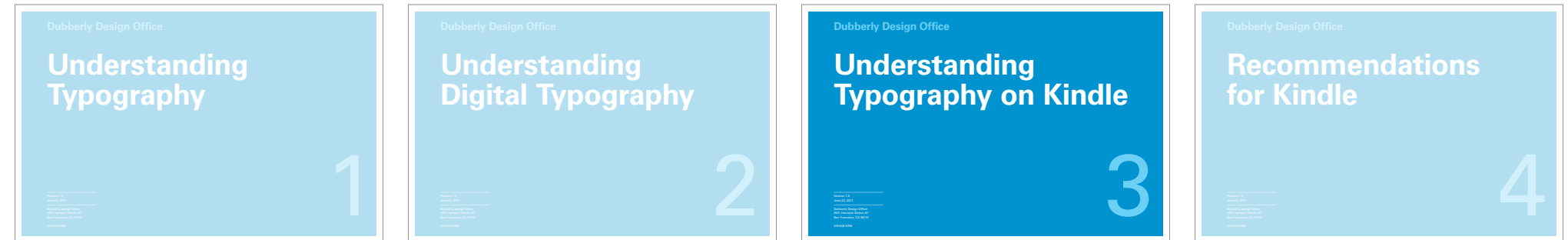
3

Overview

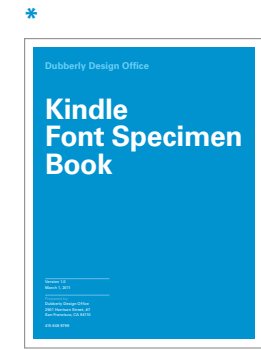
Dubberly Design Office analyzed typography on Kindle and suggested ways the experience of reading might be improved. We have produced a sequence of four reports leading to specific recommendations.

The first report provides an overview of typography; the second describes how computers have changed type and typesetting; and the third describes how Kindle implements type and typography today. We also produced a Kindle Font Specimen Book as a supplement to the third report. The fourth report suggests ways the experience of reading on Kindle might be improved.

All four reports are organized in a similar structure, beginning with an overview and preceding from glyphs to pages to books to collections for Latin and other character sets.



	How Are Languages Represented?	What's Different?	What is Kindle?	
Glyphs	<ul style="list-style-type: none"> How Have Latin Characters Evolved? How Have Fonts Evolved? How Do You Make Letters Look Good? 	<ul style="list-style-type: none"> How Is Type Input? How Is Type Encoded? How Are Characters Represented? How Do Computers Display Type? How Are Fonts Managed? 	<ul style="list-style-type: none"> How Does Kindle Encode Fonts? How Does Kindle Render Fonts? * Kindle Font Specimen Book 	Fonts
Pages	<ul style="list-style-type: none"> How Do Characters Go Together? How Do Words Go Together? 	<ul style="list-style-type: none"> How Is Text Formatted? How Are Pages Rendered? 	<ul style="list-style-type: none"> What Can Users Change When Reading a Kindle Book? 	Layout
Books	<ul style="list-style-type: none"> How Do Pages Go Together? 	<ul style="list-style-type: none"> What Is a Digital Book? 	<ul style="list-style-type: none"> How Does Kindle Encode Documents? How Does Kindle Render Documents? 	Substrate
Collections	<ul style="list-style-type: none"> What Is a Book? 	<ul style="list-style-type: none"> How Are Digital Books Managed? 	<ul style="list-style-type: none"> How Do You Publish a Kindle Book? 	Interactivity
		<ul style="list-style-type: none"> How Do Fonts Work on the Web? 		The Future



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Introduction

Amazon currently holds the prominent position in the e-book market. The company:

- has sold more than 3 million Kindles
- represents the largest e-reader device market share (40%)
- is selling more Kindle e-books than hardcover books
- controls 60% of e-book downloads (through its Kindle store)

Design excellence across the Kindle ecosystem is key to the company's continued success. This includes the design of Kindle hardware, software, and related services.

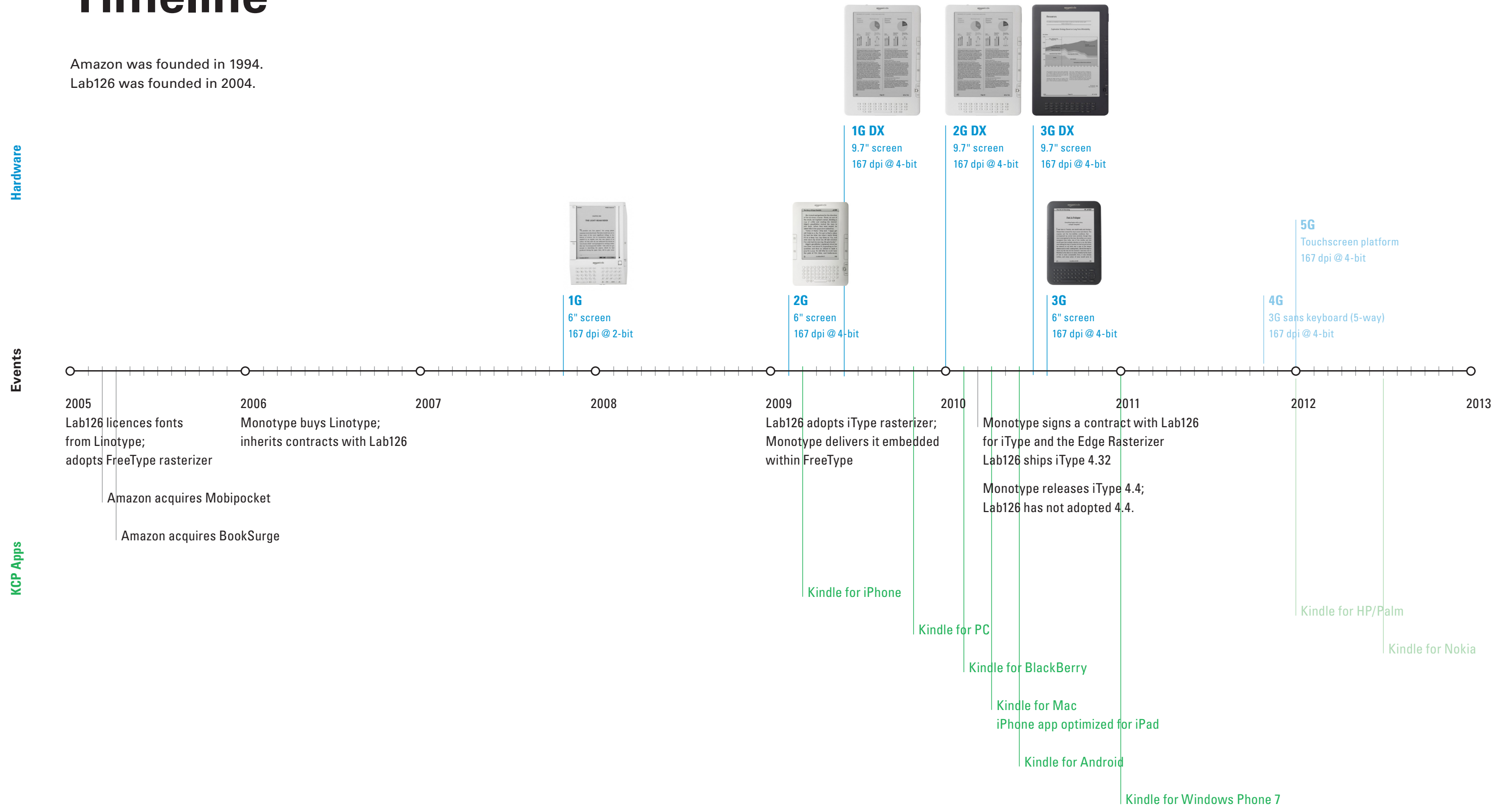
This book describes the Kindle reading experience and how it is generated – first in terms of type on Kindle: how letterforms are represented, rendered, and managed; and then in terms of typography on Kindle: how e-books are encoded, how pages are rendered, and how books are published. Throughout, it describes how users interact with what they see and the mechanism behind the interface.

What is Kindle?

What Is Kindle?

Timeline

Amazon was founded in 1994.
Lab126 was founded in 2004.



What Is Kindle?

Default Book Screen

The cornerstone of the Kindle service is the Kindle reading device.

Amazon has a goal much larger than selling e-readers: it aims to define and revolutionize e-reading. The “buy once, read everywhere” strategy* has led Amazon to create a variety of applications for other platforms which enable users to read their Amazon books on a variety of different devices.

This page shows the default reading screen on the Kindle and the larger Kindle DX. The following pages show the same book page from the suite of Kindle reading apps.

File Formats

The Kindle handles AZW, TXT, PDF, Audible and Audible Enhanced (AA, AAX), MP3, and unprotected MOBI and PRC files natively. It also handles HTML, DOC, JPEG, GIF, PNG, and BMP through free email conversion.

Kindle Store

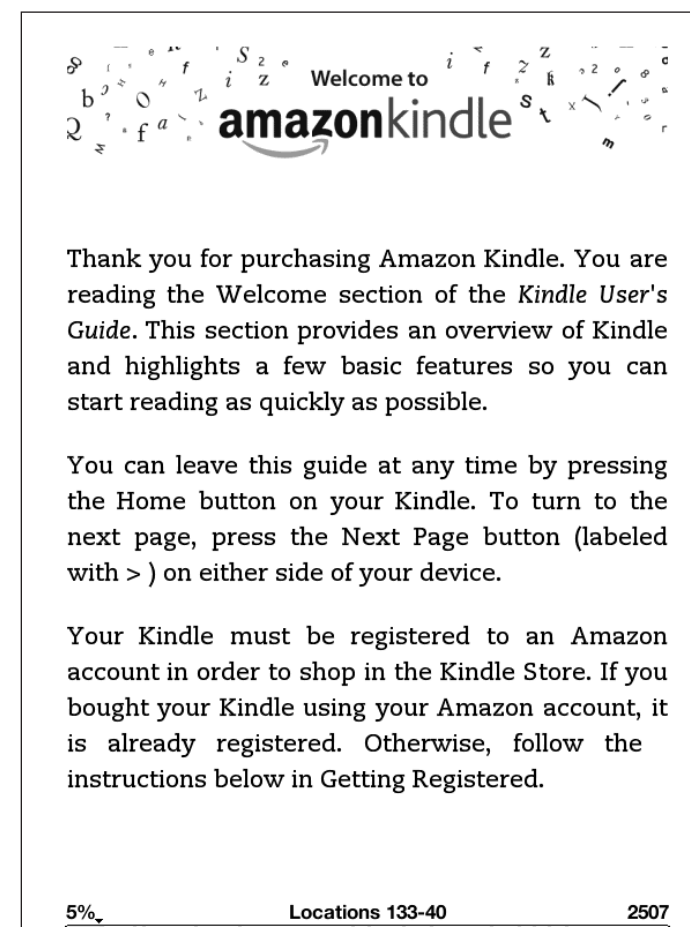
Users access the Kindle Store on the device by clicking the menus button, then selecting Shop Kindle Store from the menu of options.

* Source:

www.tuaw.com/2010/06/30/bezos-kindle-and-ipad-are-separate-devices/

Kindle

www.amazon.com/dp/B002Y27P3M

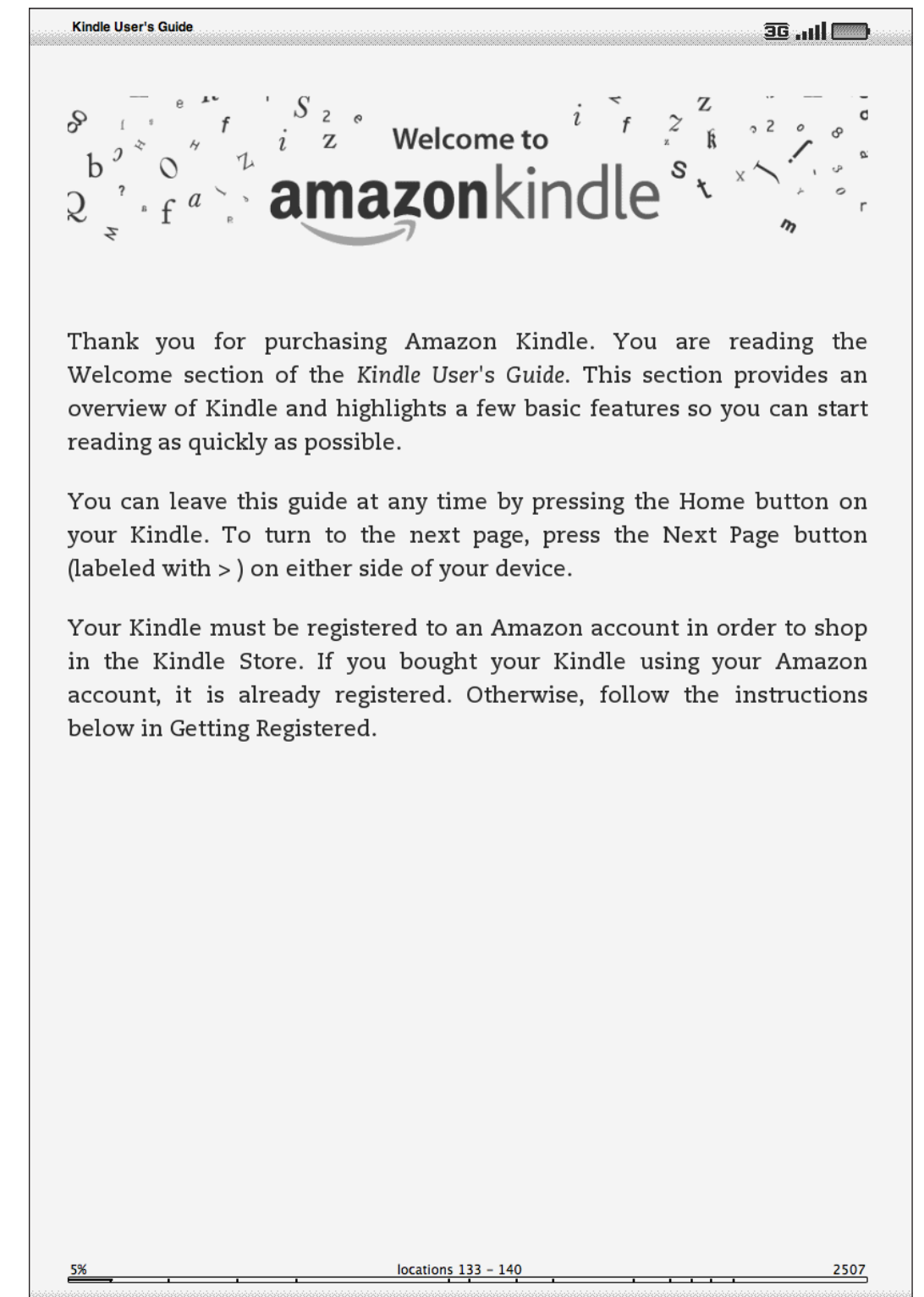


3.6-by-4.8-inch screen (6 inches diagonal)

600-by-800-pixel resolution at 167 ppi, 4-bit grayscale

Kindle DX

www.amazon.com/dp/B002GYWHSQ



5.375-by-7.875-inch screen (9.7 inches diagonal)

824-by-1200-pixel resolution at 150 ppi, 4-bit grayscale

What Is Kindle?

Kindle Cross Platform Apps

Amazon has created a variety of Kindle Cross Platform (KCP) applications to enable users to read their Kindle books on a variety of devices.

File Formats

The KCP apps handle the AZW format.

Users cannot save files locally, outside of the Kindle app.

Kindle Store

Users access the Kindle Store through the device's web browser which loads a mobile web version of the store.

Android

www.amazon.com/gp/kindle/android/shortUrlRedirect.html



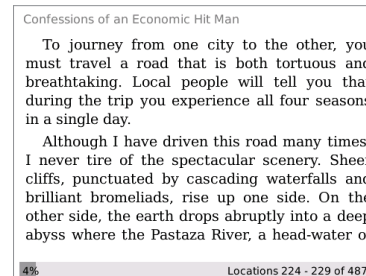
Thank you for purchasing Amazon Kindle. You are reading the Welcome section of the *Kindle User's Guide*. This section provides an overview of Kindle and highlights a few basic features so you can start reading as quickly as possible.

You can leave this guide at any time by pressing the Home button on your Kindle. To turn to the next page, press the Next Page

Android has various screen sizes, resolutions, and depths. Google G1 has 1.778-by-2.667-inch screen (3.2 inches diagonal) 320-by-480-pixel resolution at 180 ppi

BlackBerry

www.amazon.com/kindle/blackberry



BlackBerry has various screen sizes, resolutions, and depths. Blackberry Bold 9700 has 1.959-by-1.469-inch screen (2.44 inches diagonal), 480-by-360-pixel resolution at 245 ppi

Windows Phone 7

www.amazon.com/gp/feature.html/ref=kcp_wp_ln_ar?docId=1000623751

The fall of the Bear Gang gave him the star billing that launched him as a young journalist. The downside of his celebrity was that the other evening newspaper could not resist using the headline "Kalle Blomkvist solves the case." The tongue-in-cheek story was written by an older female columnist and contained references to the young detective in Astrid Lindgren's books for children. To make matters worse, the paper had run the story with a grainy photograph of Blomkvist with his mouth half open even as he raised an index finger to point.

It made no difference that Blomkvist had never in life used

Windows Phone 7 has various sizes, resolutions, and depths. Samsung Focus has 2.043-by-3.404-inch screen (4 inches diagonal), 480-by-800-pixel resolution at 235 ppi

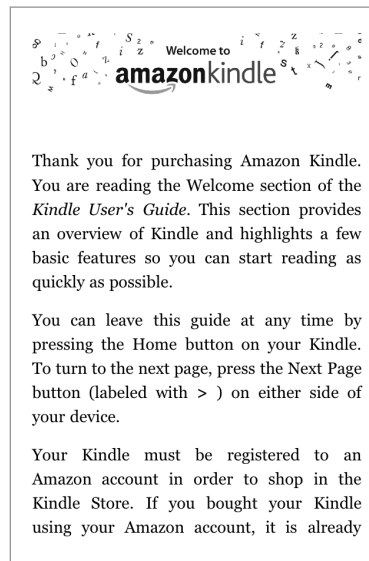
Images are to scale with previous page.

What Is Kindle?

Kindle Cross Platform Apps

iPhone

www.amazon.com/gp/kindle/iphone



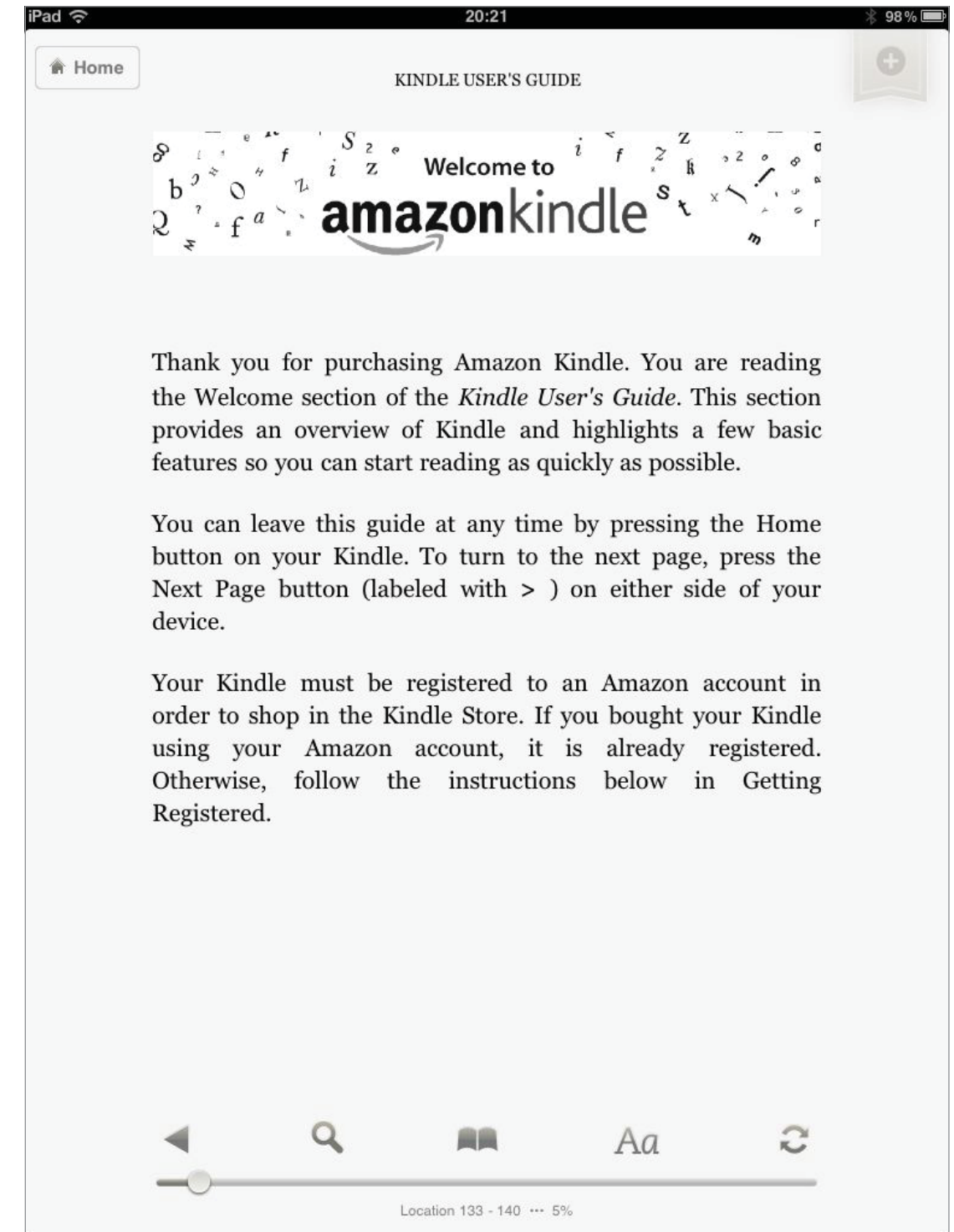
1.96-by-2.9-inch screen (3.5 inches diagonal)

iPhone 4 has 640-by-960-pixel resolution at 326 ppi

iPhone 3GS has 320-by-480-pixel resolution at 163 ppi

iPad

www.amazon.com/gp/kindle/ipad



5.8-by-7.76-inch screen (9.7 inches diagonal)

768-by-1024-pixel resolution at 132 ppi

Images are to scale with previous page.

What Is Kindle?

Kindle for PC and Mac

In addition to the KCP apps, Amazon has developed reading applications for both Windows PCs and Macs.

File Formats

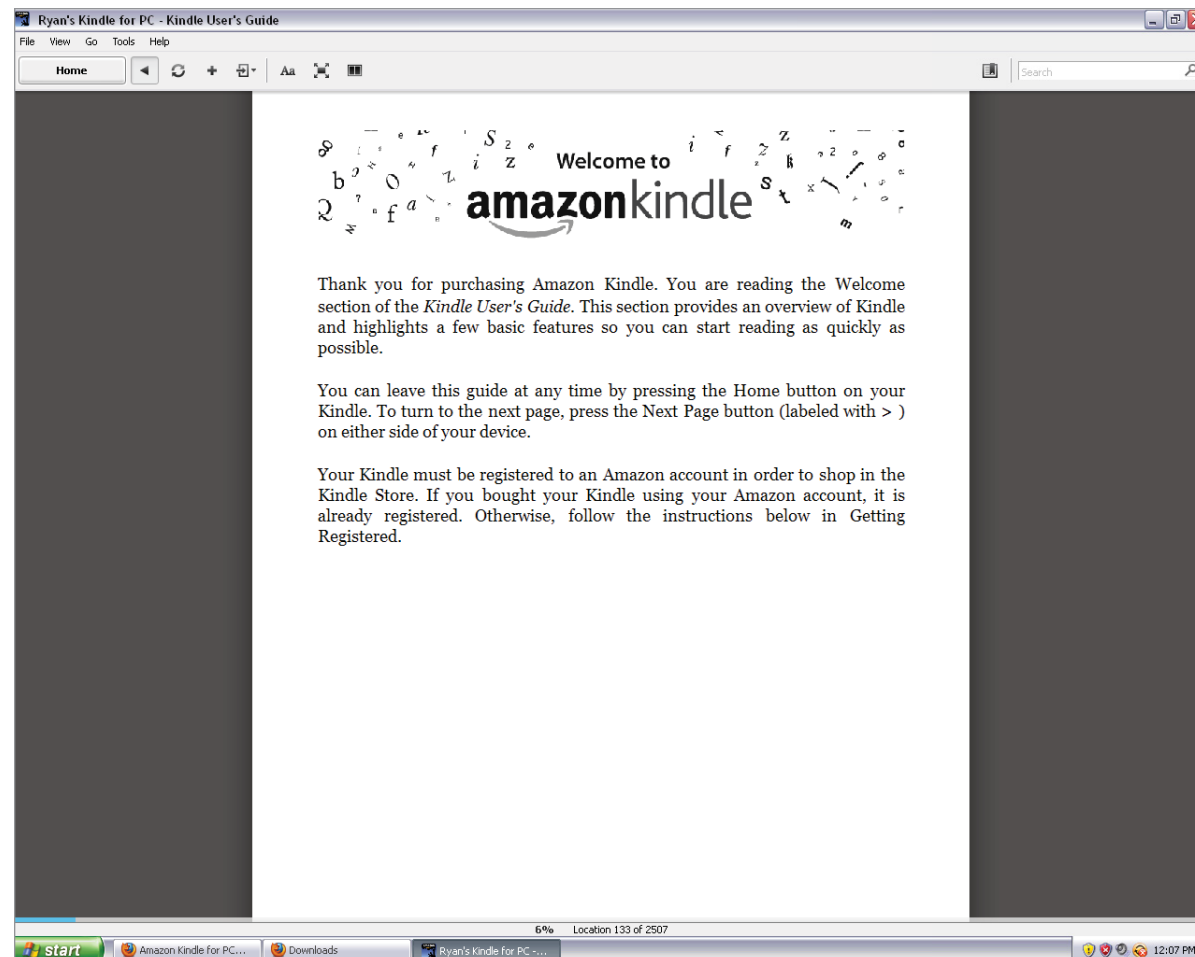
The KCP apps handle the AZW format. Kindle newspapers, magazines, and blogs are not currently available for Kindle for PC or Mac. Users cannot save files locally, outside of the Kindle apps.

Kindle Store

Users access the Kindle Store through the computer's web browser which loads a web version of the store.

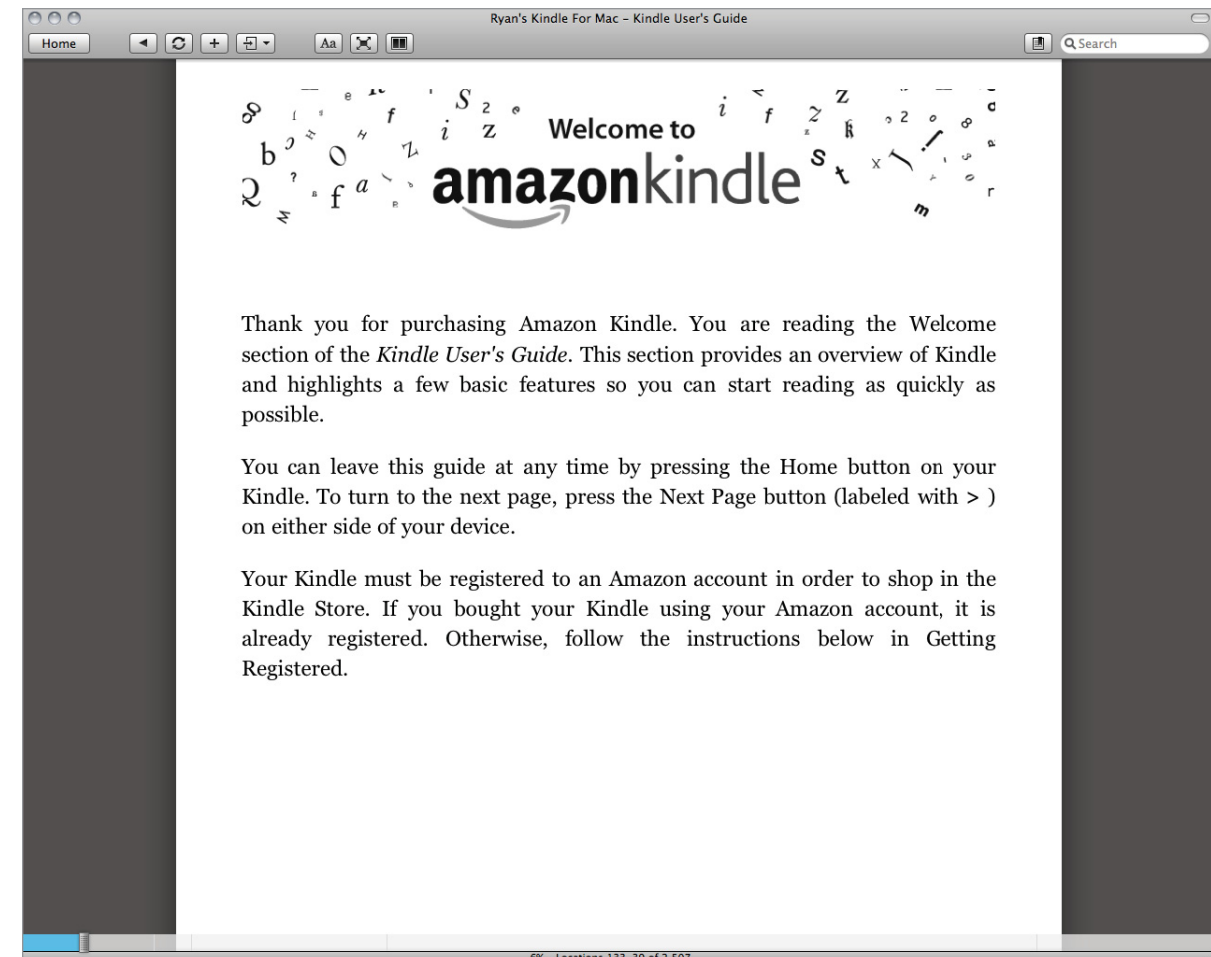
PC

www.amazon.com/gp/kindle/pc



Mac

www.amazon.com/gp/kindle/mac



What Is Kindle?

Kindle for the Web

In an effort to extend the buy-once-read-everywhere strategy, Amazon will be releasing a Kindle for the Web product.

We believe this will essentially serve up a unique URL to the user's browser.

Note:

The product was not yet released at the time of this publication.

Web

www.amazon.com/gp/feature.html?ie=UTF8&docId=1000579091



The screenshot shows the Amazon.com website interface. At the top, there's a navigation bar with the Amazon logo, a personalized greeting for 'Ryan Reposar', and links for 'Today's Deals', 'Gifts & Wish Lists', and 'Gift Cards'. Below this is a search bar and a navigation menu with categories like 'Kindle Store', 'Buy A Kindle', 'Kindle eBooks', etc. The main content area features a large blue banner for 'Kindle for the Web BETA' with the text 'Read and share book samples without leaving your browser.' and 'Coming Soon: Read full books in your web browser.' Below the banner is a section titled 'Coming Soon to Kindle for the Web' with a bulleted list of features. To the right of the list is a 'Library view' button and a grid of book covers. The bottom of the page has a 'Try Kindle for the Web' link.

Kindle for the Web^{BETA}
Read and share book samples without leaving your browser.
Coming Soon: Read full books in your web browser.

Coming Soon to Kindle for the Web

- Read the full text of Kindle books in your web browser. No download or installation required.
- Synchronize your library, last page read, bookmarks, notes, and highlights with Kindle and Kindle-compatible devices including PC, Mac, iPhone, iPad, BlackBerry, and Android phones.
- Bookstores, authors, retailers, bloggers and other website owners will be able to offer Kindle books from their own sites, let their readers start enjoying the full text of these books instantly, and earn affiliate fees for doing so.

[Library view](#)

Read and share book samples

- Read a book sample from Amazon.com without leaving your browser. No download or installation required.
- Share book samples with your friends via email or social networks.
- Embed a book sample in your personal blog or website and earn referral fees on sales.
- For a list of frequently asked questions and other information, please visit our [help page](#).

[Try Kindle for the Web](#)

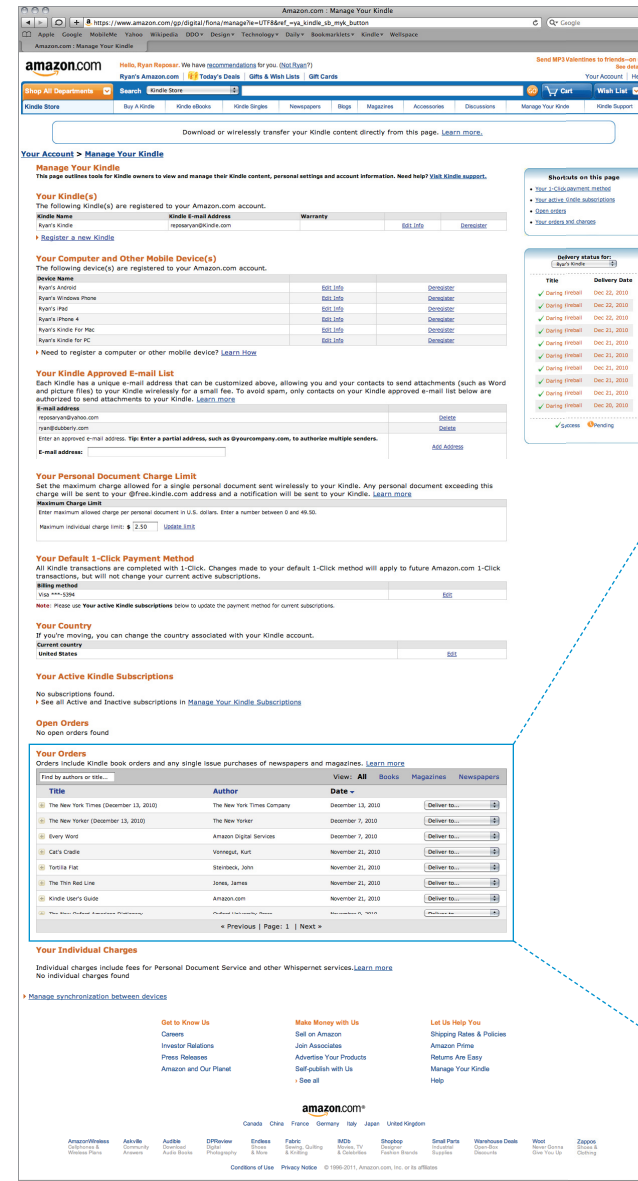
What Is Kindle?

Manage Your Kindle

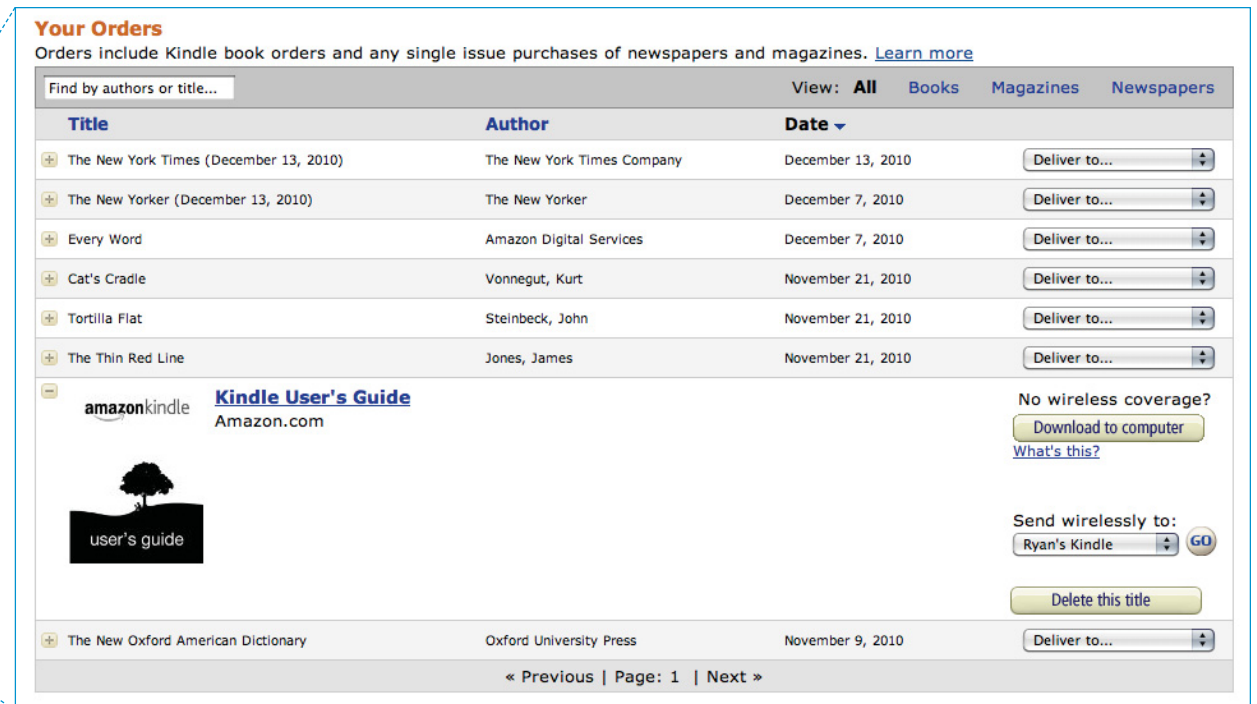
Users can manage the following aspects of their Kindle on Amazon's website:

- Manage device
 - Edit
 - Register
 - Unregister
- Manage mobile devices
 - Edit
 - Register
 - Unregister
- Manage which email accounts can send documents to your Kindle
- Set the maximum charge allowed for a single document conversion
- Edit 1-Click payment method
- Edit your country
- Manage your subscriptions
 - Review delivery status
- Track open orders
- Manage past orders
 - View order details
 - Download to computer
 - Send wirelessly to device
 - Delete title
- Manage personal charges
- Manage synchronization between devices

Users can navigate to this page by following the path below:
Amazon.com > Your Account > Manage Your Kindle
(under the Digital Content section of the page).



The entire Manage Your Kindle page on Amazon's website.



Download a Kindle title to your computer or send it wirelessly to a variety of devices via your Manage Your Kindle page.

What Is Kindle?

Accessing Kindle Content

Since Kindle content (books, magazines, newspapers, blogs, and games) lives on Amazon's servers in the cloud, there are a variety of ways to access it.

Kindle Device

Users can download, save, and view content directly on their Kindle.

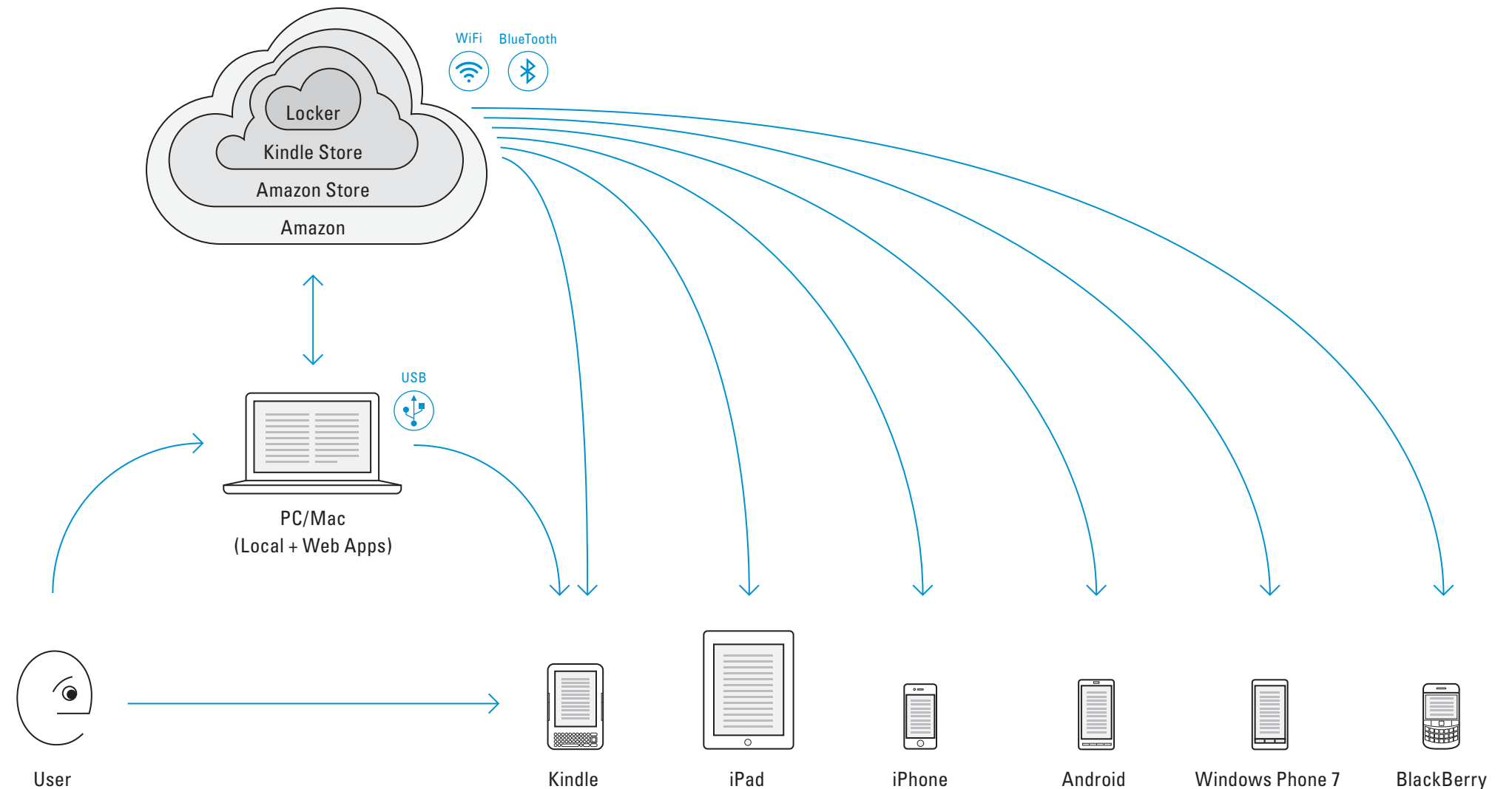
PC/Mac

Users can also view Kindle content on their PC/Mac, or in a web browser. The desktop version of Kindle saves content to the user's computer where it can be read locally. Additionally, users can connect their Kindle to their computer via USB and load content directly.

KCP Apps

The content stored on Amazon's servers can also be viewed on a variety of different platforms including Apple's iOS, Google's Android, Microsoft's Windows Phone 7, and RIM's BlackBerry.

There are plans to develop Kindle apps for HP/Palm's webOS and Nokia's Symbian.



What Is Kindle?

Accessing Content on the Kindle

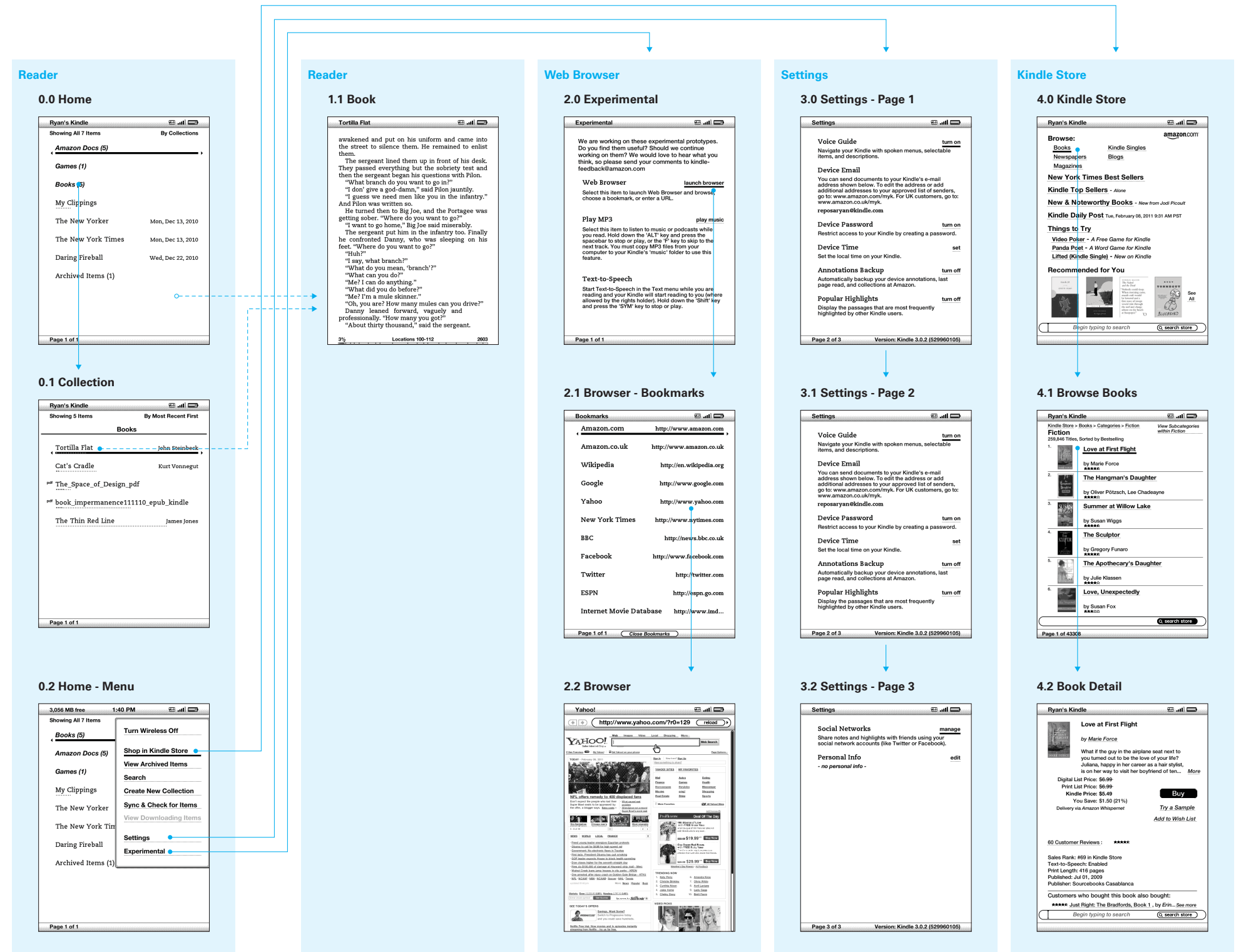
This illustration shows how users navigate to the main applications (sometimes called booklets) on the Kindle:

- Home
- Reader
- Web Browser
- Settings
- Kindle Store

Music playback is controlled via the keyboard, there is no GUI. Music files are played in the order they were added to the Kindle – there is a single folder (one level of collections) and no nesting.

Users can organize books into collections, then open the book from within the collection.

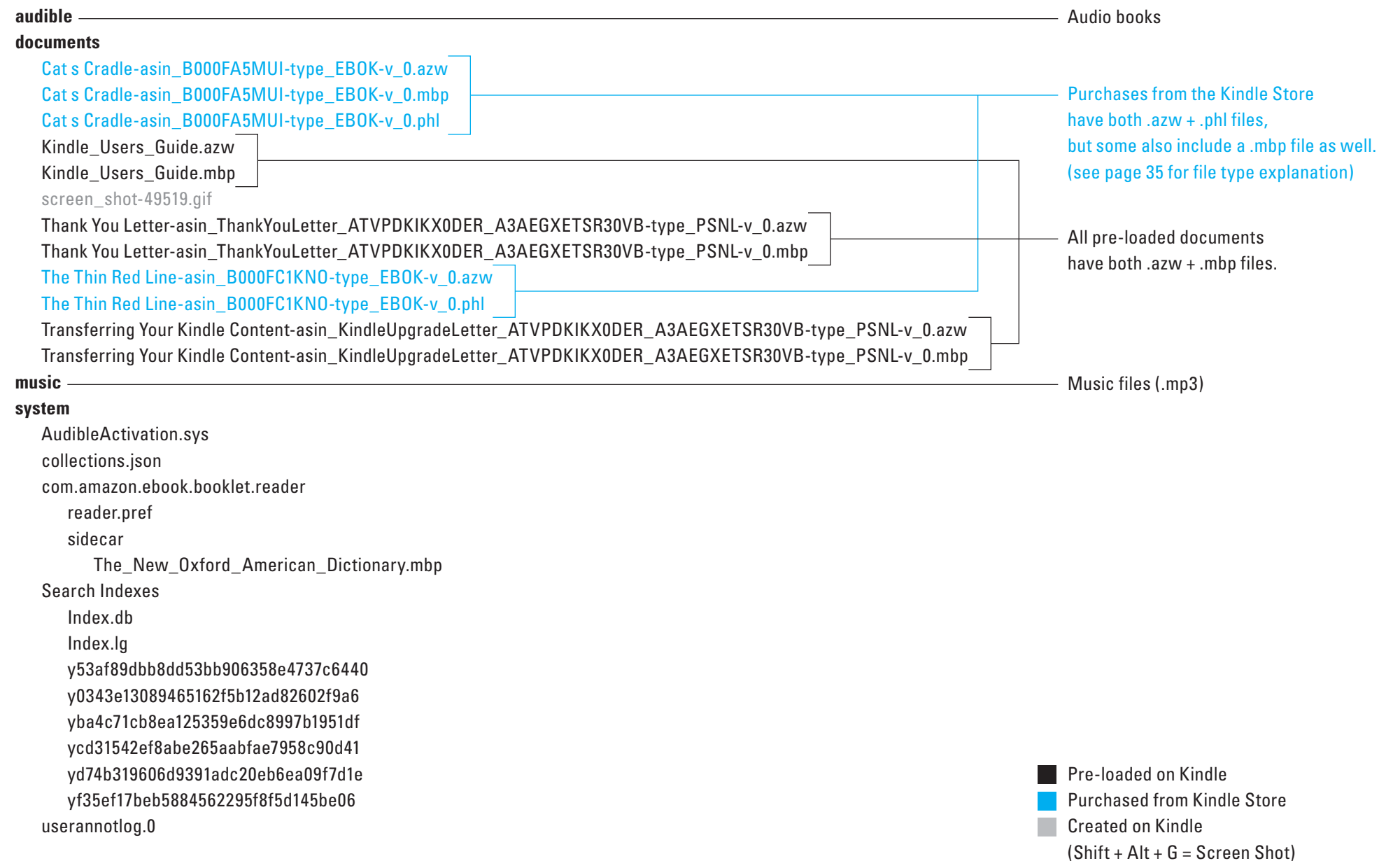
Books also can appear on the home screen.



What Is Kindle?

Directory Structure

The Kindle uses a micro-USB port for power and also for transferring content. The Kindle mounts as a removable disk when connected to a PC via the supplied USB cable. Once connected to a PC, users can navigate the contents of the Kindle just as they would traditional folder and files on their hard drive.

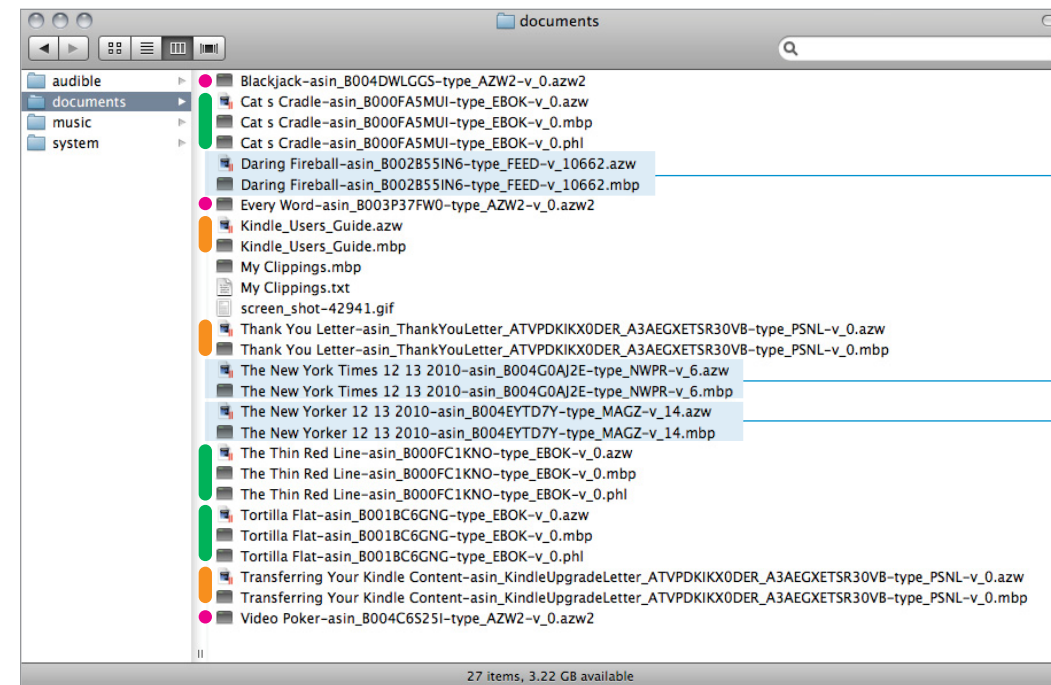


Directory Structure vs User Interface

The Kindle home screen does not show the true directory structure to the user; it simply shows the list of AZW and PDF documents.

Furthermore, if the user creates collections on the device, those are not reflected back in the directory structure.

Directory Structure

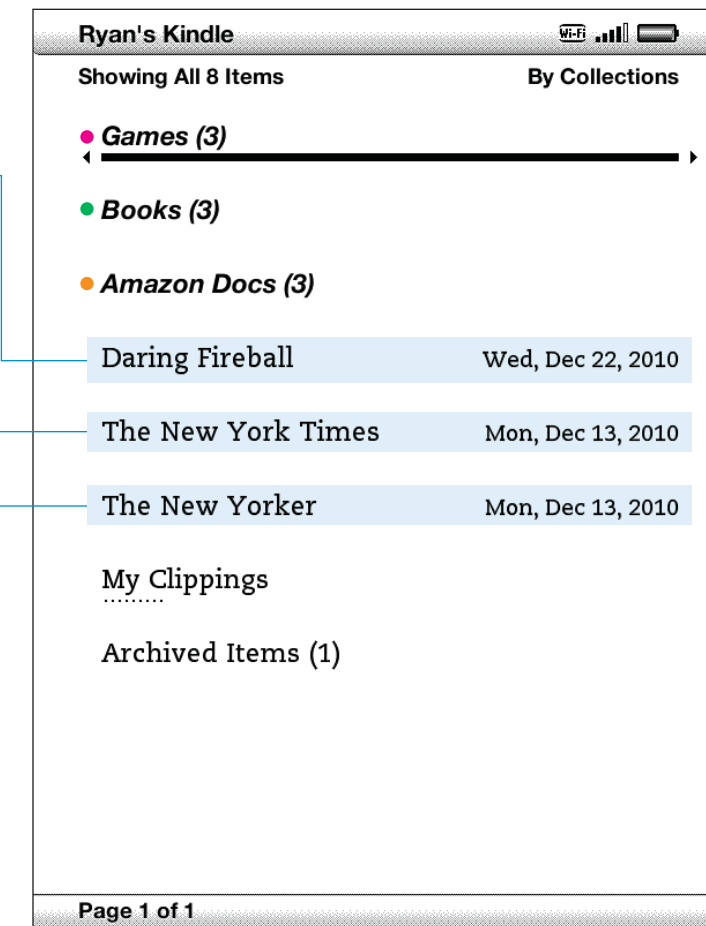


The directory contains a list of documents.

The items highlighted blue above (not in collections) are displayed at the top level of the home screen on the right.

Items preceded by colored circles or columns are included in collections (games, books, and Amazon docs, respectively).

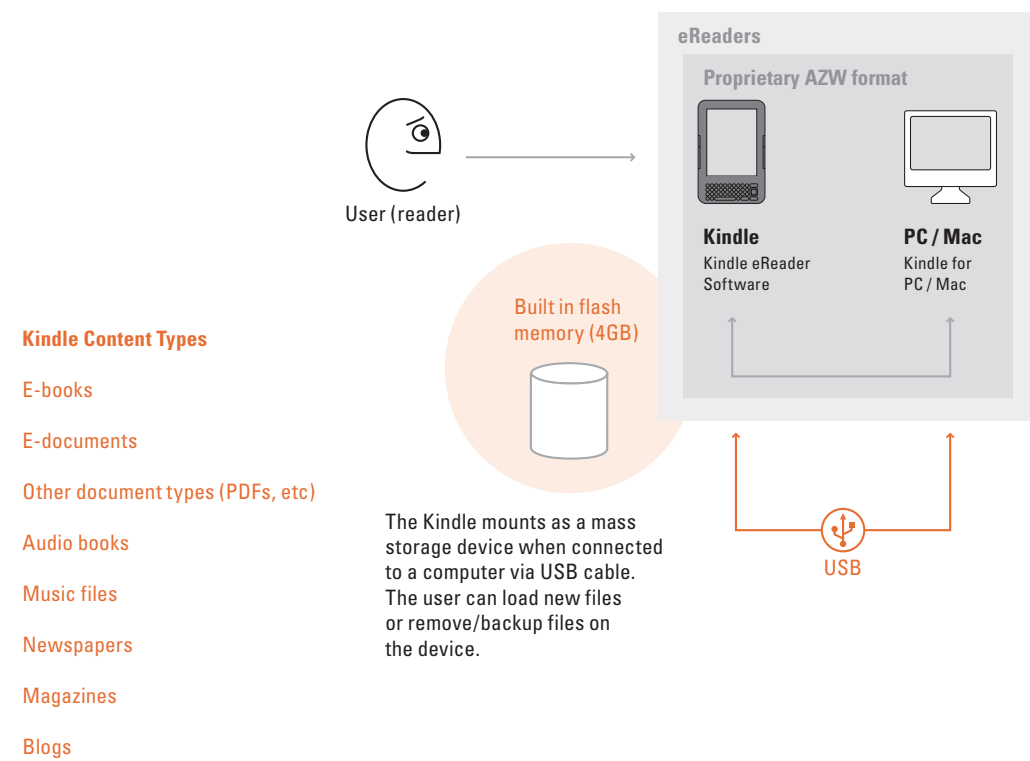
User Interface



The items marked with colored circles (in collections) are hidden from the top level of the home screen but displayed along side items not in collections in the directory structure at left.

Kindle Service Model

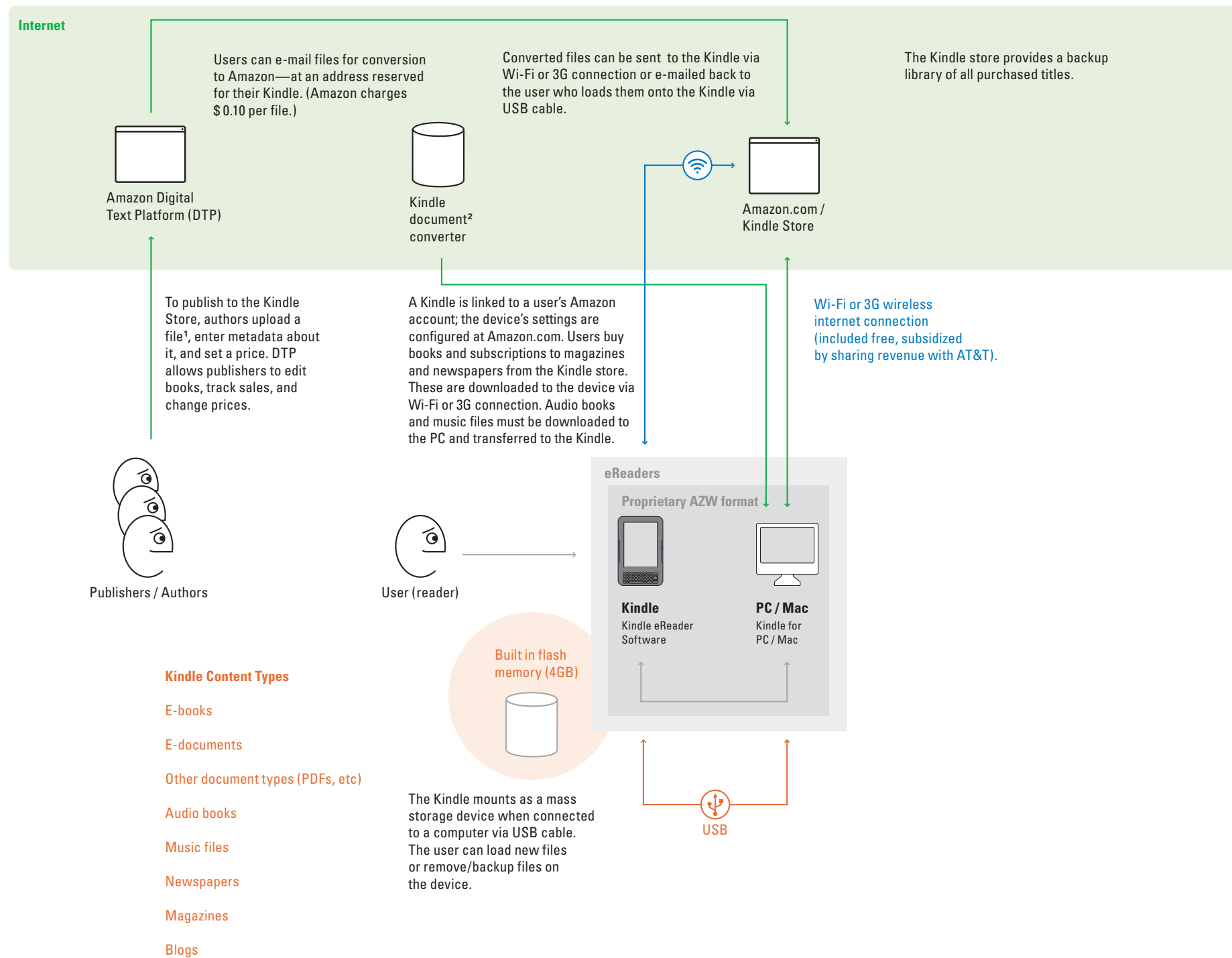
1 This Device Holds Many Books



What Is Kindle?

Kindle Service Model

2 How Do I Get Content Onto the Device?



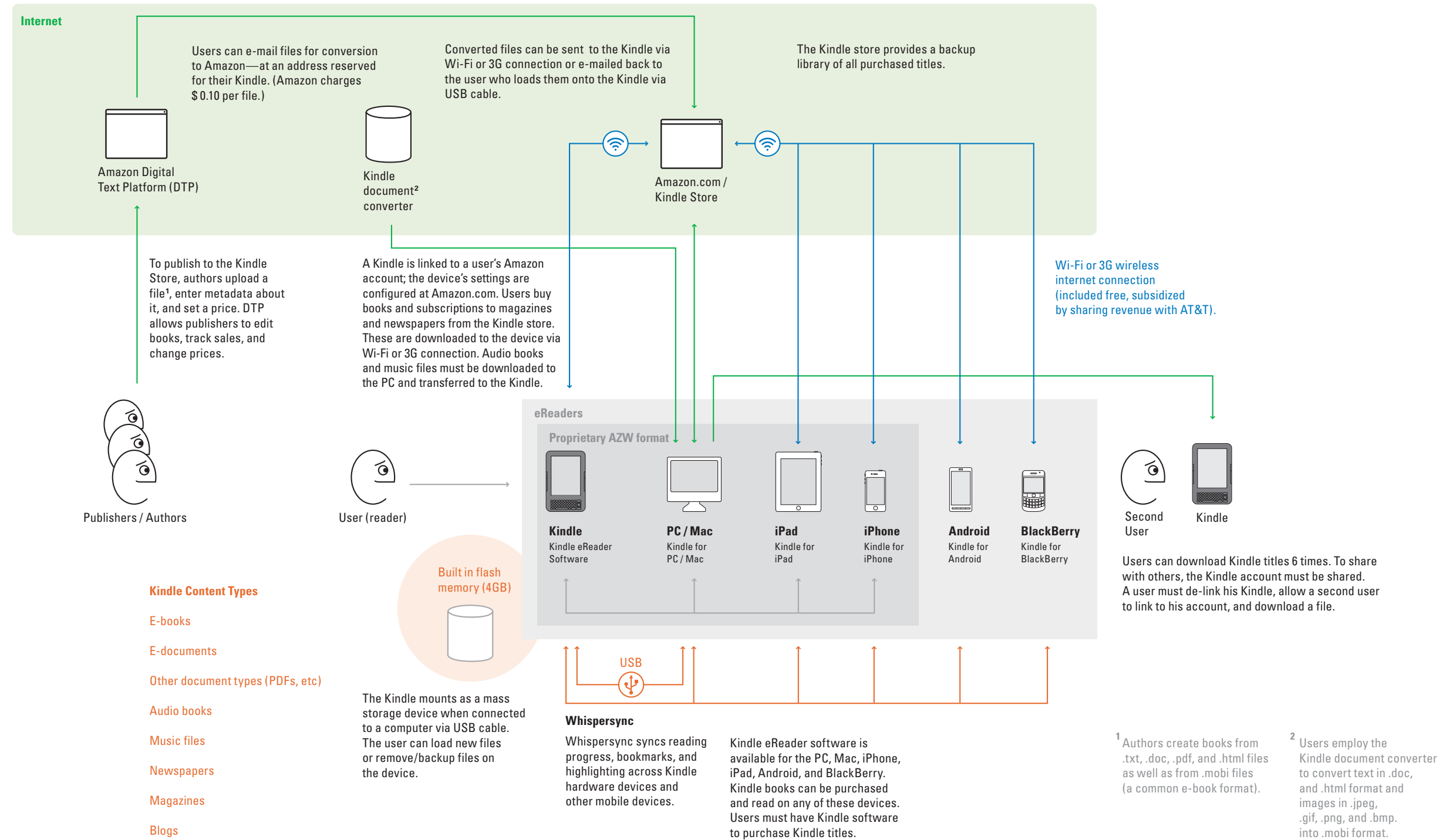
¹ Authors create books from .txt, .doc, .pdf, and .html files as well as from .mobi files (a common e-book format).

² Users employ the Kindle document converter to convert text in .doc, and .html format and images in .jpeg, .gif, .png, and .bmp. into .mobi format.

What Is Kindle?

Kindle Service Model

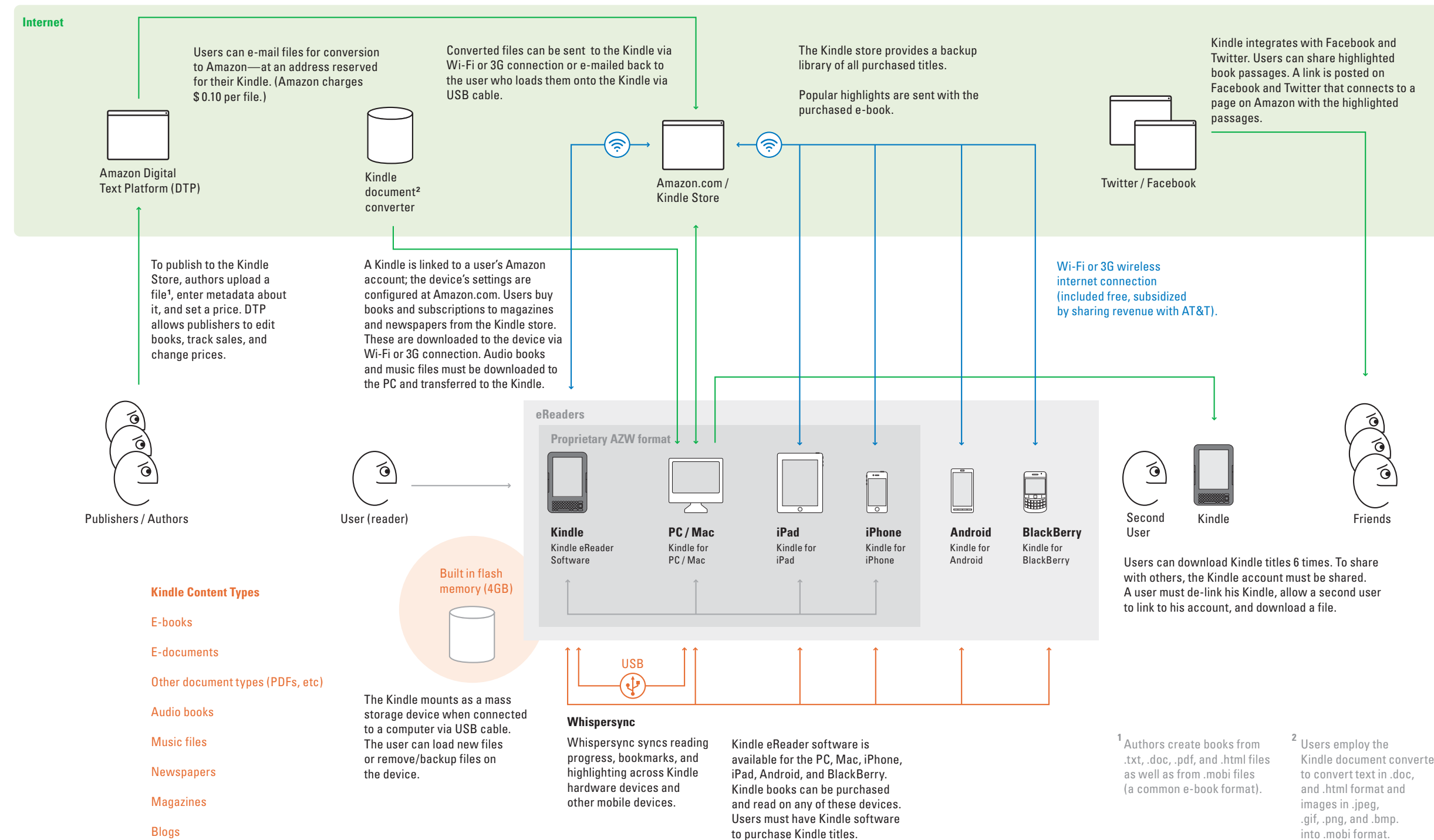
3 Other Devices



What Is Kindle?

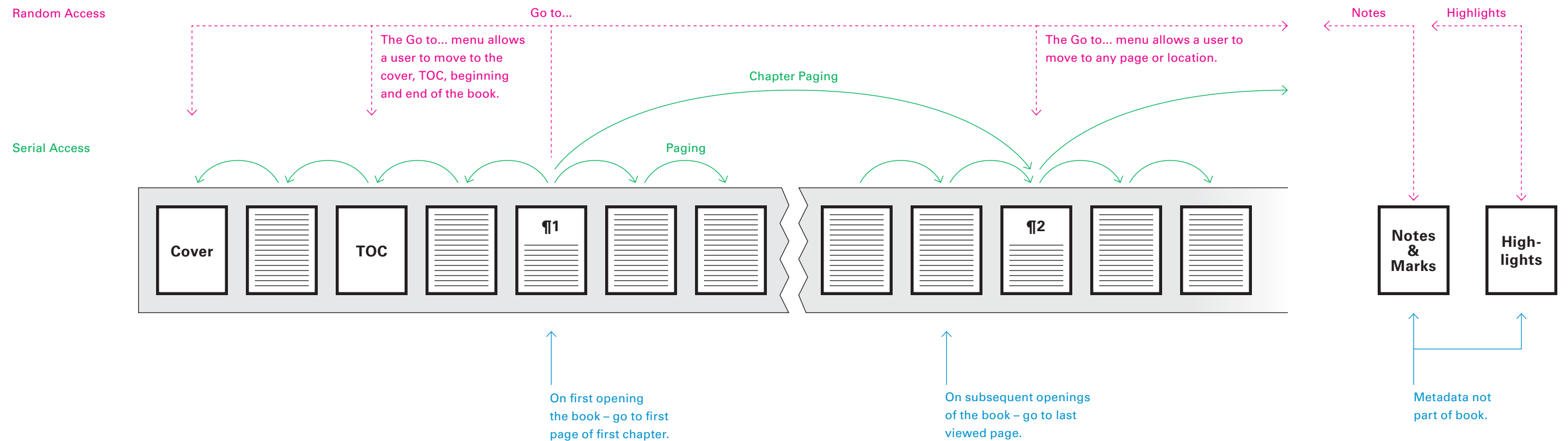
Kindle Service Model

4 Highlights, Twitter, Facebook



Kindle Navigation Paths

Users can navigate Kindle e-books in multiple ways. The next/previous page buttons enable serial access from page-to-page, and the 5-way enables serial access from chapter-to-chapter. In addition to serial access navigation, the Go to... menu, View Notes and Marks, and View Popular Highlights allow for random access navigation, which allows users to jump to specified points in the book that are not sequential.



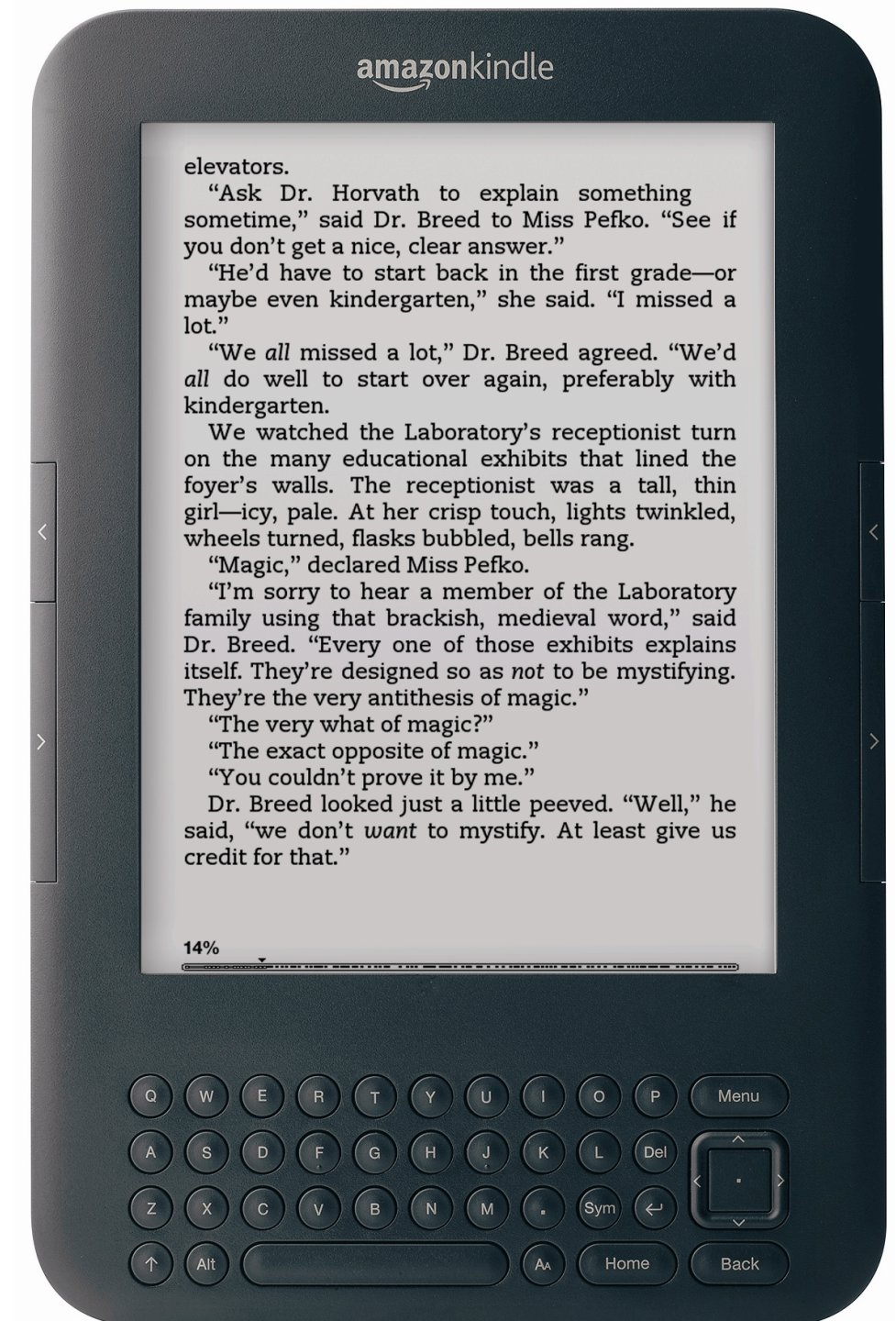
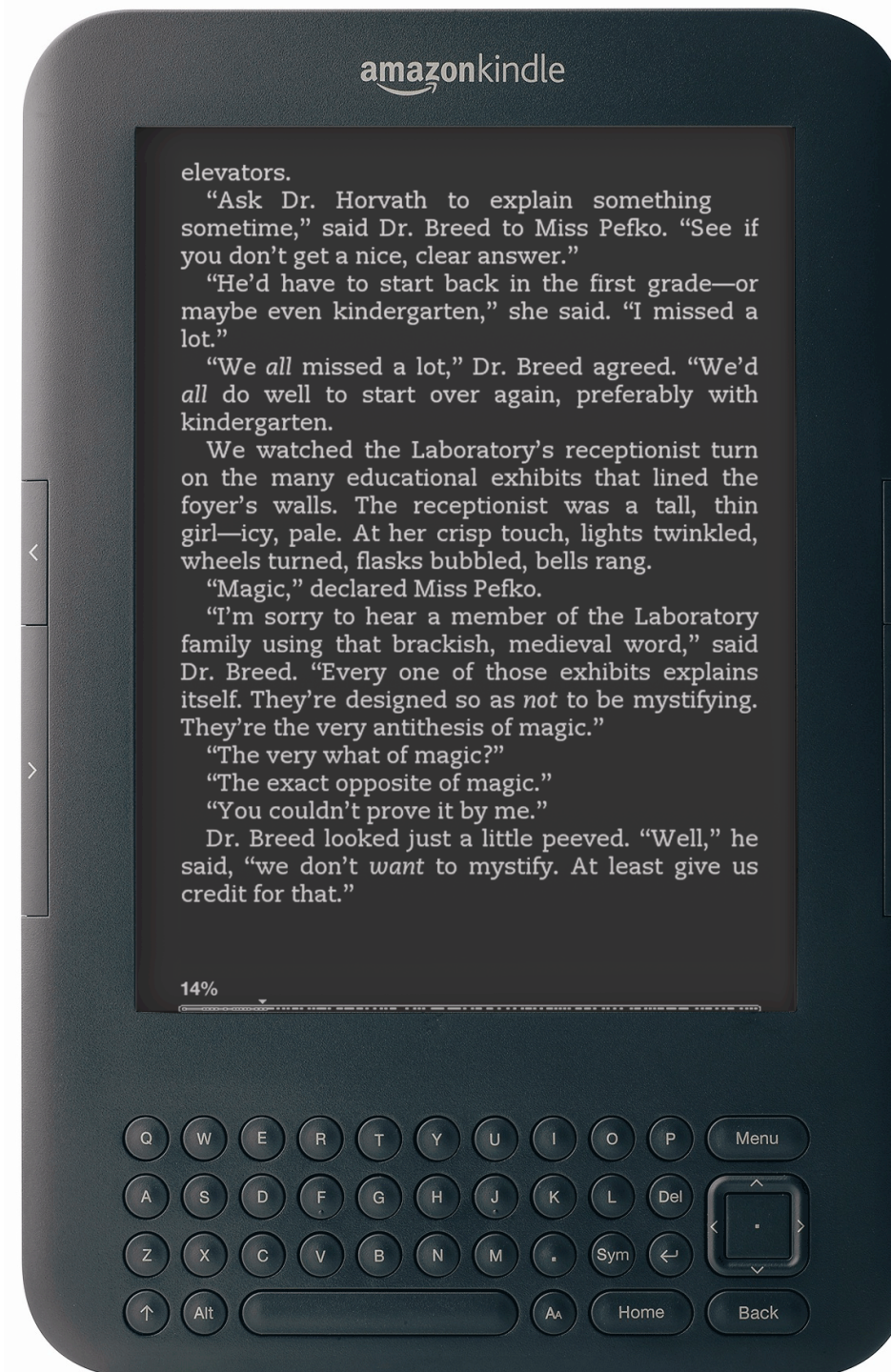
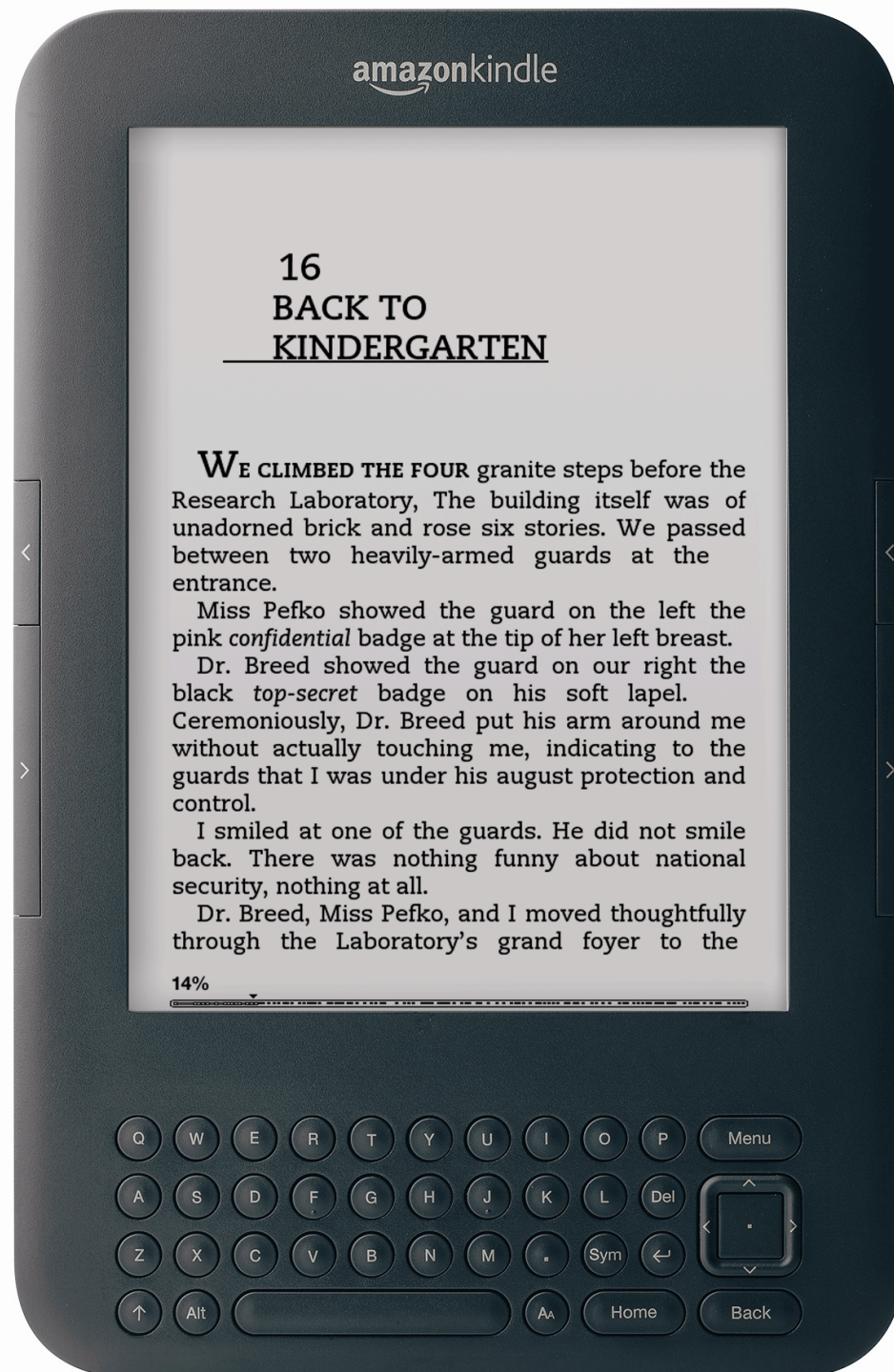
What Is Kindle?

Paging

Pressing the buttons on the left or right sides of the device displays the next or previous page

A reverse screen image of the next page is displayed first, then the normal screen image.

The screen is displayed reversed quickly as a way of ensuring that no traces of the previous page will remain. It is unclear why a solid black screen is not used instead.



Chapter Paging

Books with chapter bookmarks built-in can be navigated via the 5-way (left and right) – pressing the 5-way displays the first page of the next chapter

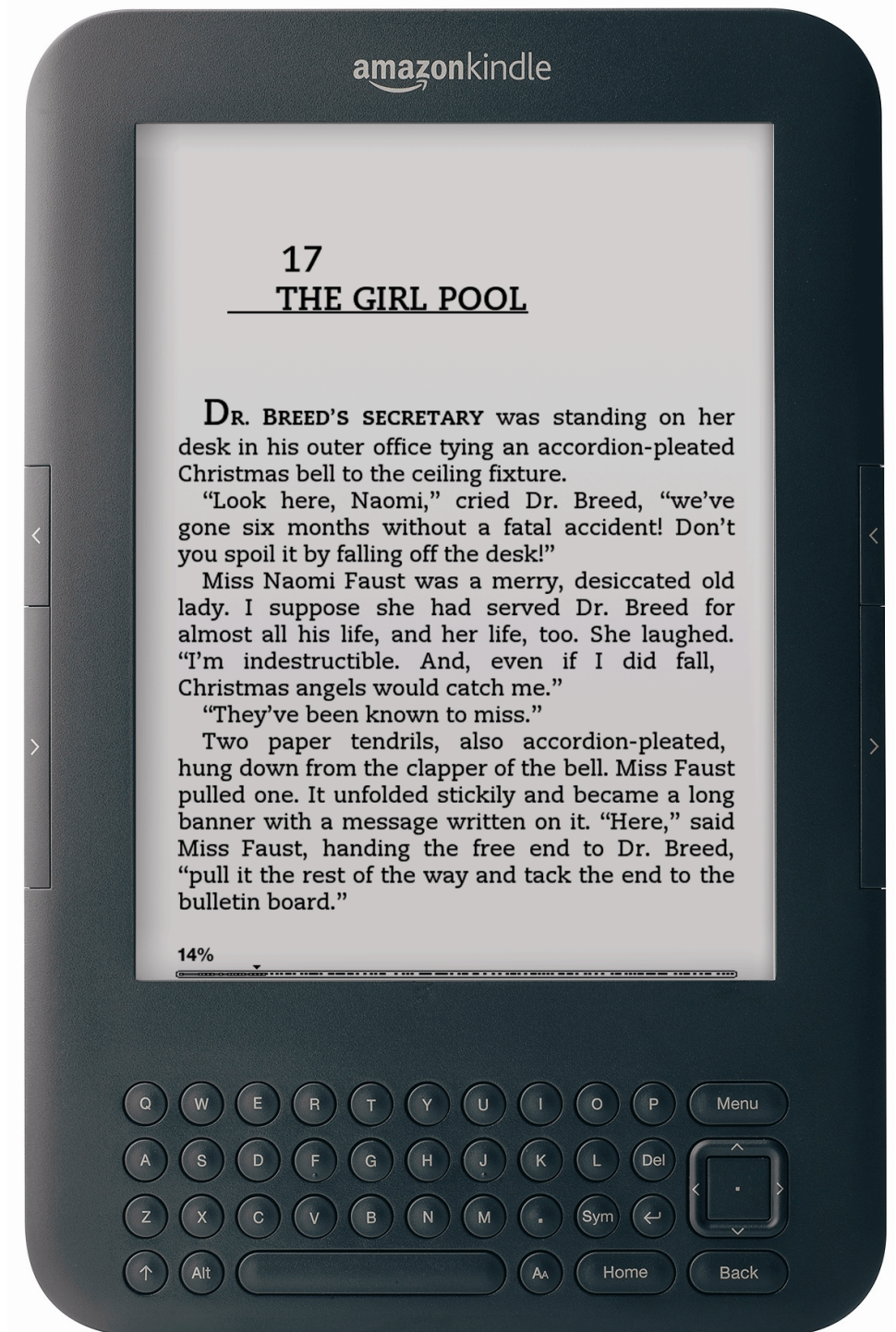
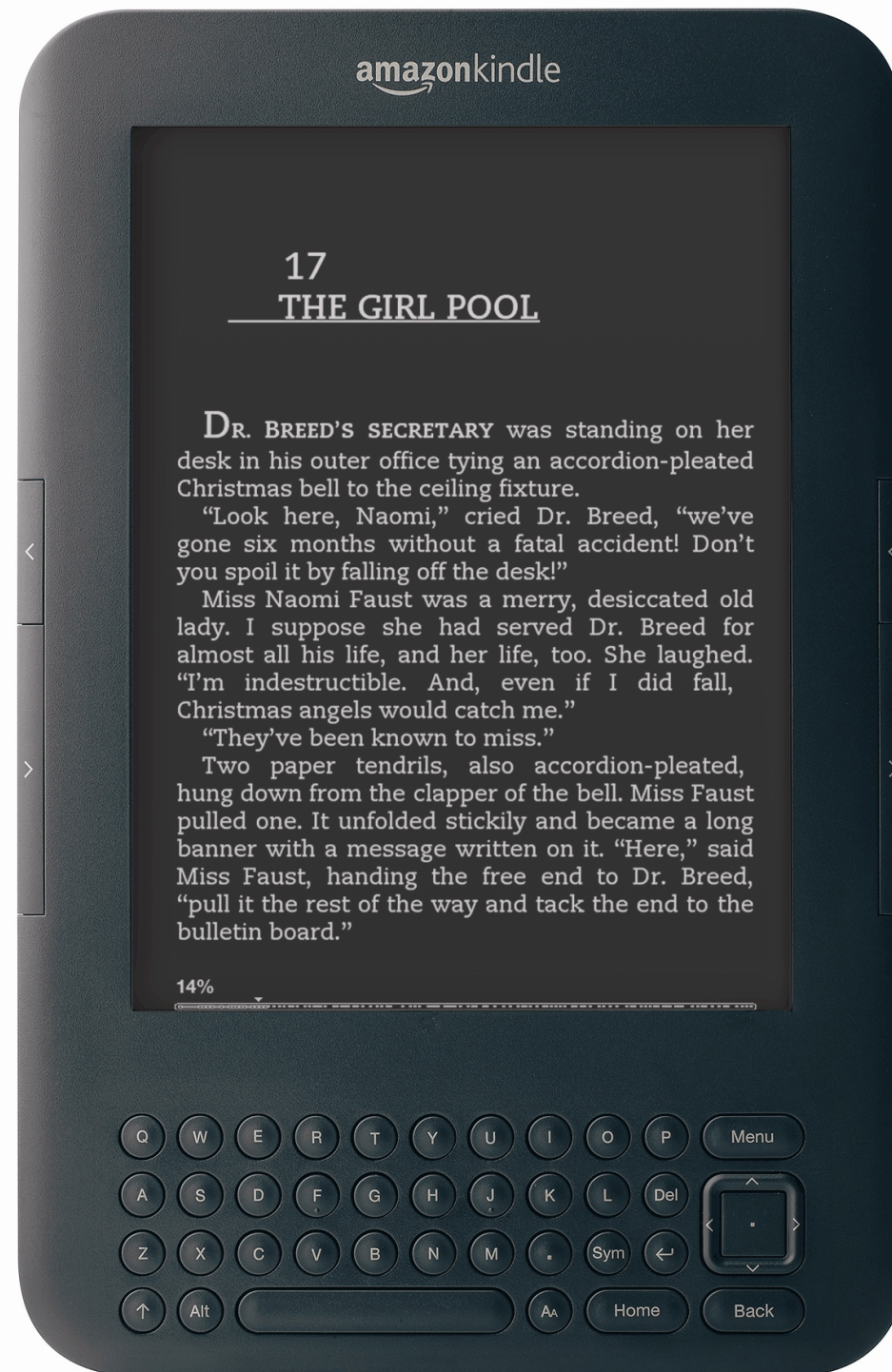
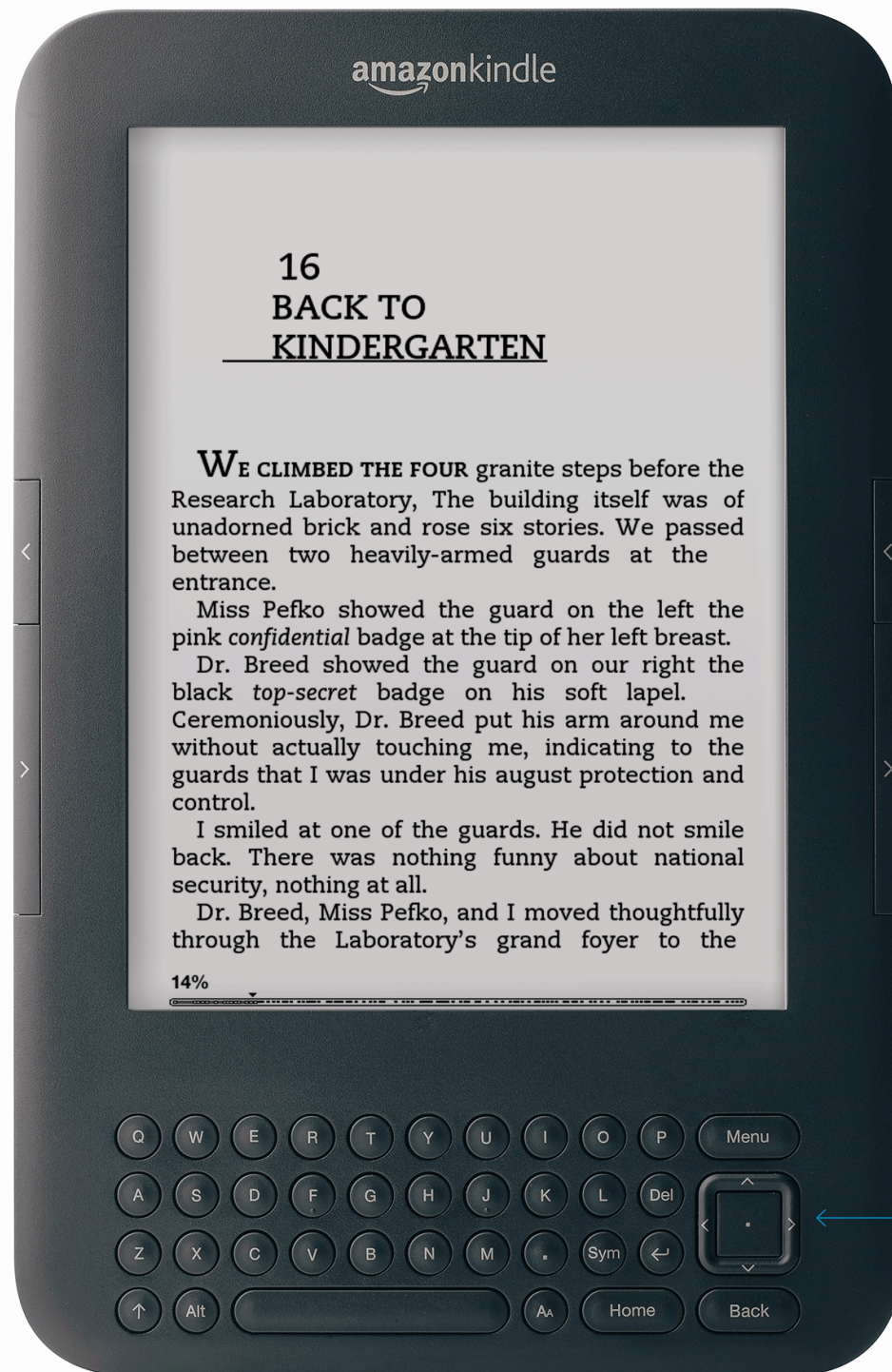


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[Chapter 2 - HOW PILON WAS LURED BY GREED OF POSITION TO FORSAKE DANNY'S HOSPITALITY.](#)
[Chapter 3 - HOW THE POISON OF POSSESSIONS WROUGHT WITH PILON, AND HOW EVIL ...](#)
[Chapter 4 - HOW JESUS MARIA CORCORAN, A GOOD MAN, BECAME AN UNWILLING VEHICLE ...](#)
[Chapter 5 - HOW SAINT FRANCIS TURNED THE TIDE AND PUT A GENTLE PUNISHMENT ON ...](#)
[Chapter 6 - HOW THREE SINFUL MEN, THROUGH CONTRITION, ATTAINED PEACE. HOW ...](#)
[Chapter 7 - HOW DANNY'S FRIENDS BECAME A FORCE FOR GOOD. HOW THEY SUCCORED THE ...](#)
[Chapter 8 - HOW DANNY'S FRIENDS SOUGHT MYSTIC TREASURE ON SAINT ANDREW'S EVE. ...](#)
[Chapter 9 - HOW DANNY WAS ENSNARED BY A VACUUM-CLEANER AND HOW DANNY'S](#)

1%

Selection Made

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[Chapter 8 - HOW DANNY'S FRIENDS SOUGHT MYSTIC TREASURE ON SAINT ANDREW'S EVE. ...](#)
[Chapter 9 - HOW DANNY WAS ENSNARED BY A](#)

po-si-tion n. 1 a place where someone or something is located or has been put: the distress **more** ☺

Begin typing to create a note or click to follow the link

Result Displayed

2

HOW PILON WAS LURED BY GREED OF POSITION TO FORSAKE DANNY'S HOSPITALITY.

The lawyer left them at the gate of the second house and climbed into his Ford and stuttered down the hill into Monterey.

Danny and Pilon stood in front of the paintless picket fence and looked with admiration at the property, a low house streaked with old whitewash, uncurtained windows blank and blind. But a great pink rose of Castile was on the porch, and grandfather geraniums grew among the weeds in the front yard.

"This is the best of the two," said Pilon. "It is bigger than the other."

Danny held a new skeleton key in his hand. He tiptoed over the rickety porch and unlocked the front door. The main room was just as it had been when the *viejo* had lived there. The red rose calendar for 1906, the silk banner on the wall, with Fighting Bob Evans looking between the

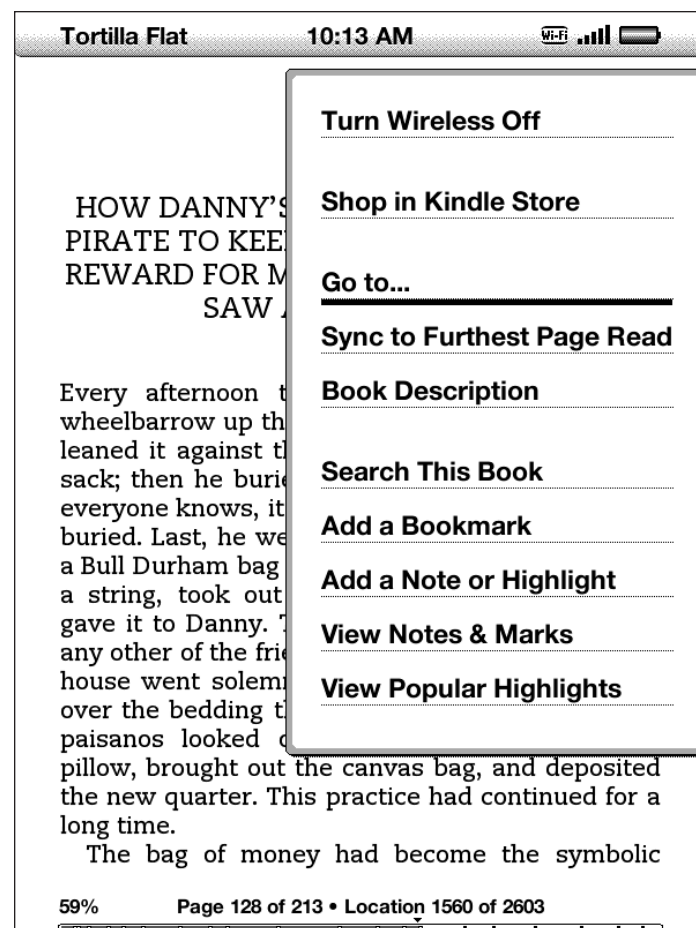
7%

The 5-way can be used to navigate the Table of Contents; however there is no indication of which chapter is selected. The dictionary is activated for words in the chapter titles while navigating the Table of Contents.

What Is Kindle?

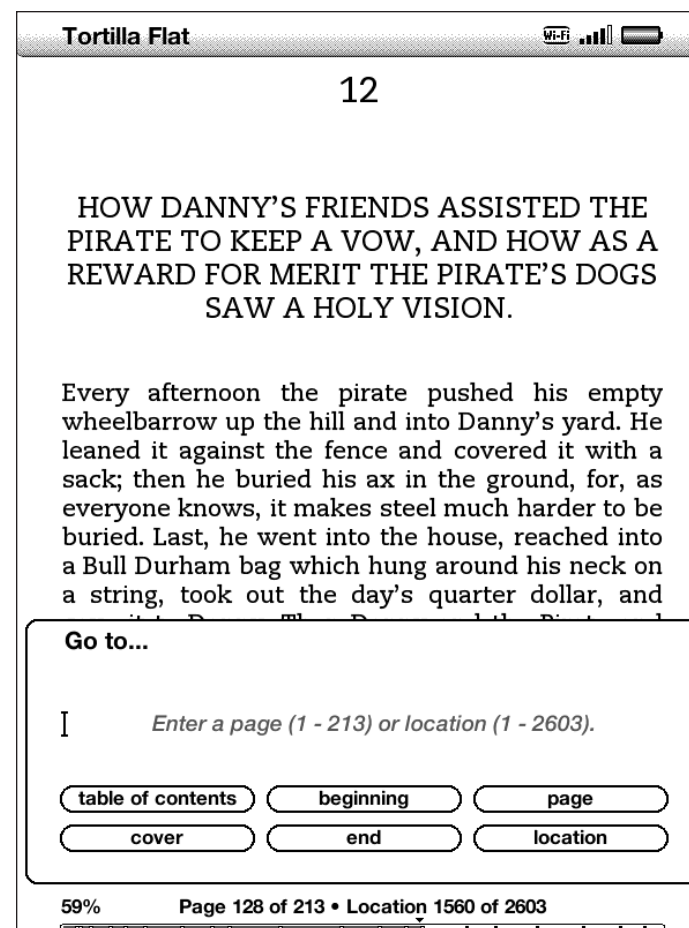
Go to...

Accessing Go to...



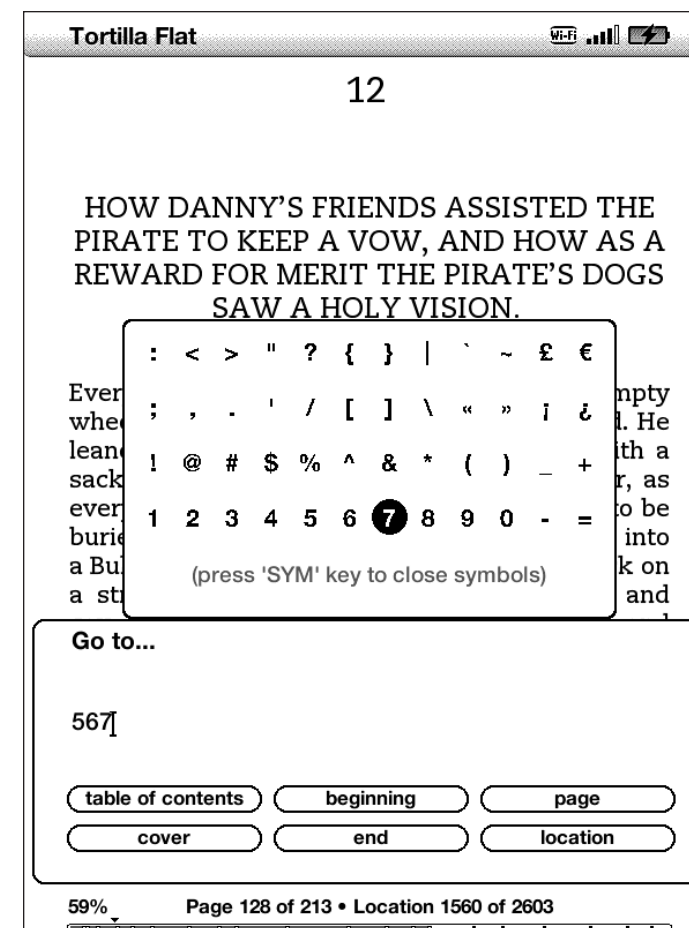
Go to... is the default selected option in Menu

Default Go to... Menu

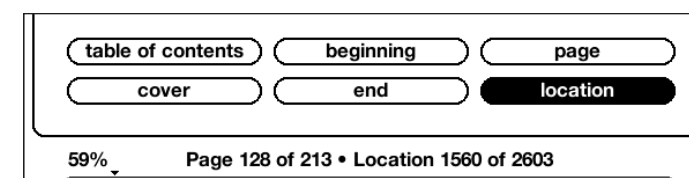


When accessed, the default is for the user to enter text; however the only text that can be entered is numbers, which require the Sym menu to be opened first – if the Sym menu is not opened, typing on the keypad produces no results.

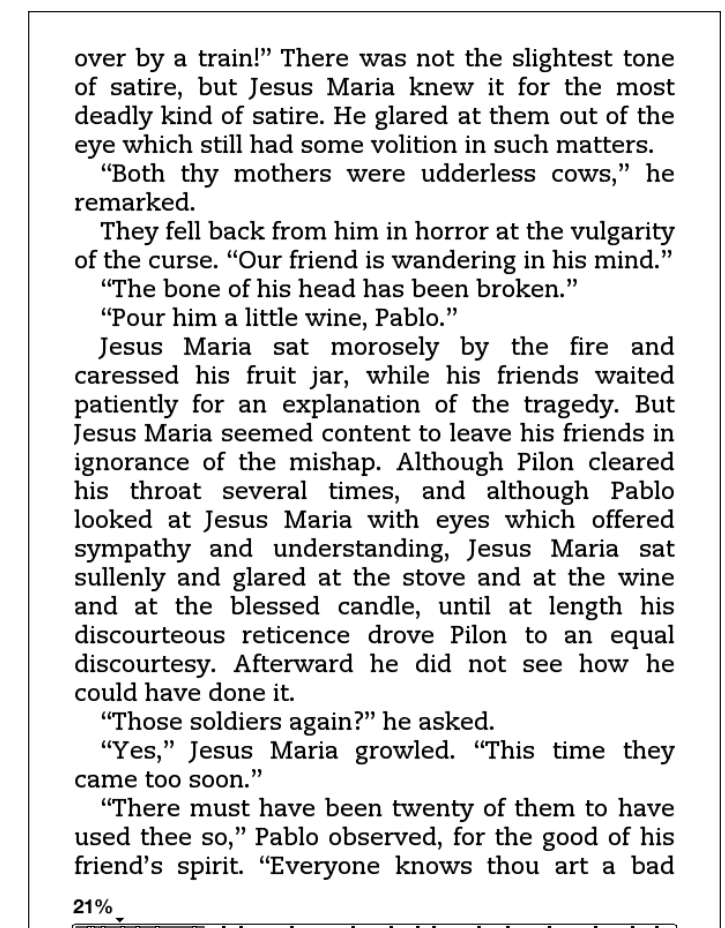
Selecting a Go to... Option



Users must open the Sym menu to enter numbers, and then select Page or Location to specify what kind of number they have entered.

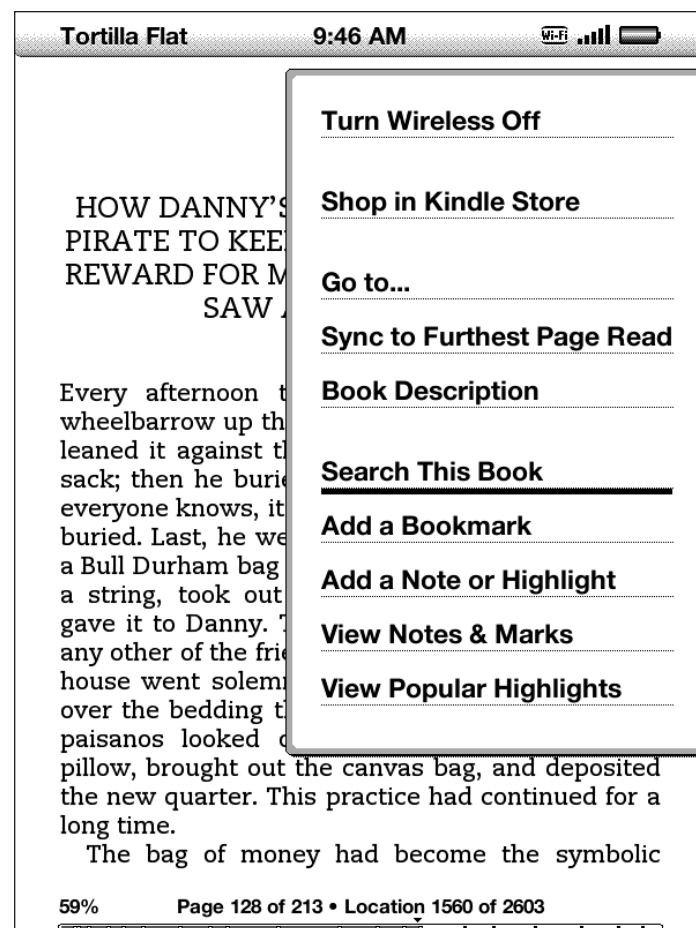


Selection Displayed



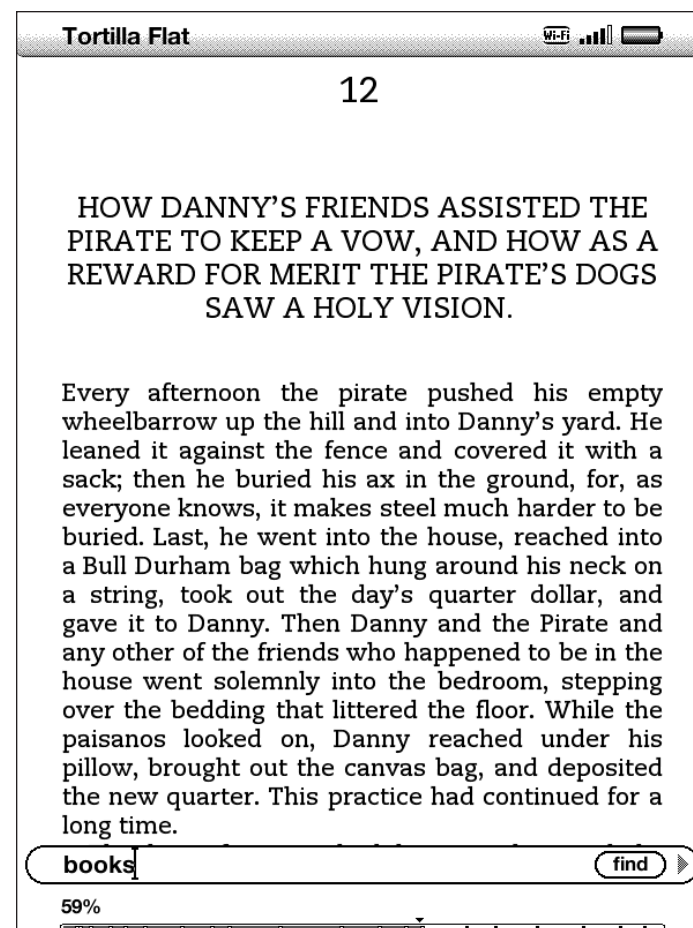
Search This Book

Accessing Search This Book



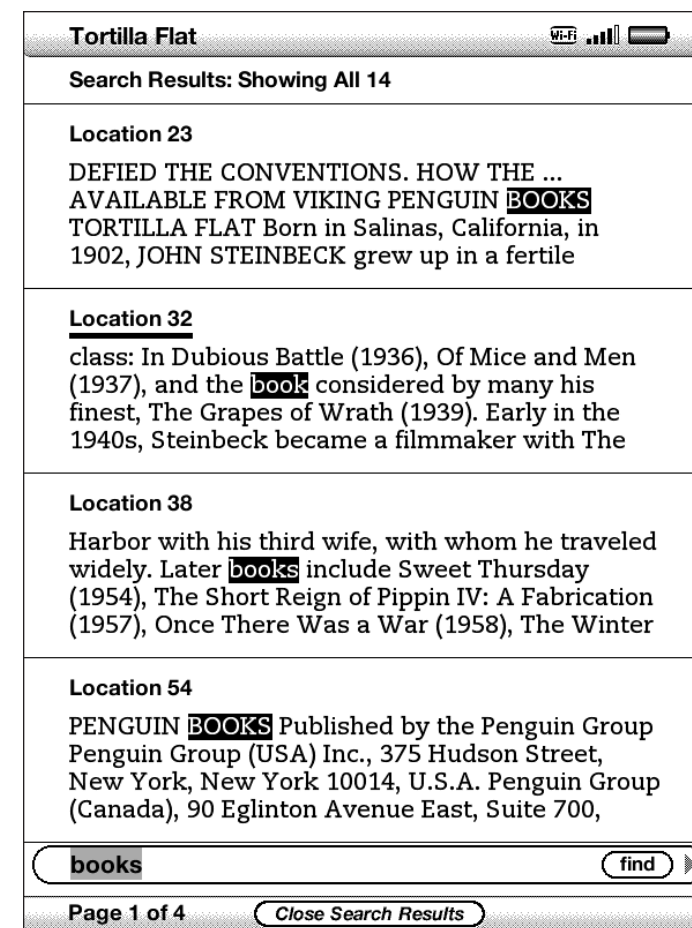
Search This Book is accessed via the Menu.

Search Field



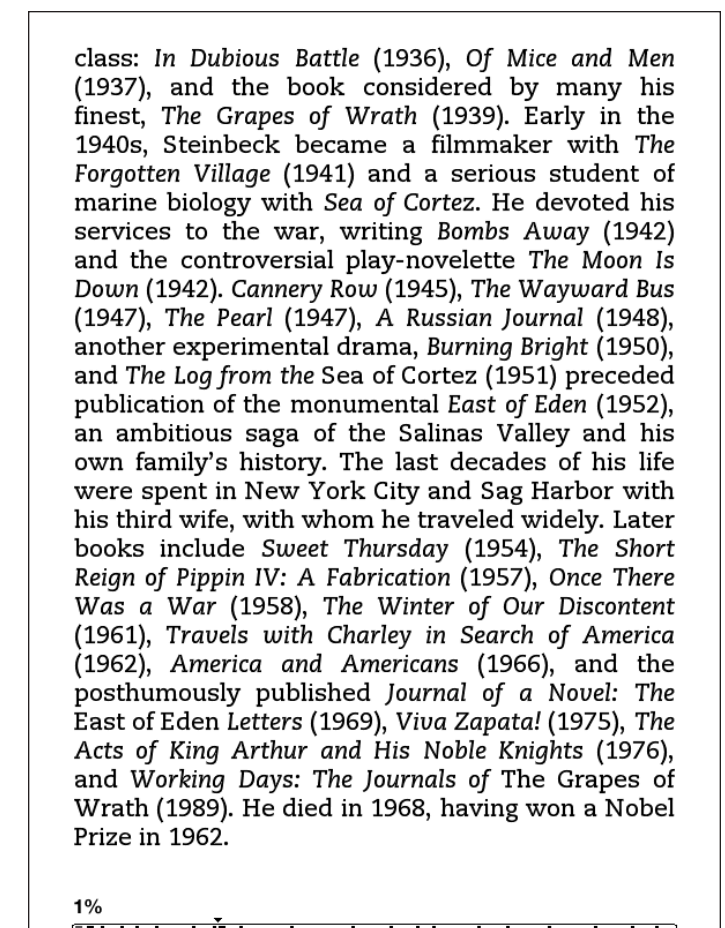
The search field is overlaid on screen.

Search Results



Search results are presented as a text list; searched for terms are highlighted. The results page is navigated via the 5-way and selected with the 5-way center button.

Result Displayed



After the user selects a result, the Reader presents the full page containing the result. The searched for term is not highlighted.

What Is Kindle?

Dictionary

Kindle features a built-in dictionary. Moving the cursor around the screen activates the dictionary, and clicking the center button on the 5-way brings up a full entry for the selected word. It is also possible to search the dictionary.

The *New Oxford American Dictionary* is the default dictionary; it can't be changed. Alternate dictionaries can be purchased; they are accessed in the same way as other books and can't be called up while reading in the same way as the built-in dictionary.

Short Dictionary Entry, in Book

Cat's Cradle

He coughed. "You can look," he said, "and you can judge for yourself."
And he took me down into the basement of his store. He lived down there. There was a double bed and a dresser and a hot plate.
Jack apologized for the unmade bed. "My wife left me a week ago." He coughed. "I'm still trying to pull the strings of my life back together."
And then he turned on a switch, and the far end of the basement was filled with a blinding light.
We approached the light and found that it was sunshine to a fantastic little country built on plywood, an island as perfectly rectangular as a township in Kansas. Any restless soul, any soul seeking to find what lay beyond its green boundaries, really would fall off the edge of the world.
The details were so exquisitely in scale, so cunningly textured and tinted, that it was unnecessary for me to squint in order to believe that the nation was real—the hills, the lakes, the rivers, the forests, the towns, and all else that good natives everywhere hold so dear.
And everywhere ran a spaghetti pattern of railroad tracks.
"Look at the doors of the houses," said Jack

plate n. 1 a flat dish, typically circular and made of china, from which food is eaten or served. an [more](#) ⓘ
Begin typing to create a note or click to start a highlight

The on-page dictionary is activated by using the 5-way to move the cursor around the screen. A full listing for the selected word is accessed by pressing the return key.

Full Listing

plate /plāt/
■ n.
1 a flat dish, typically circular and made of china, from which food is eaten or served.
<SPECIAL USAGE>
▸ an amount of food on such a dish: *a plate of spaghetti.*
▸ a flat dish, typically made of metal or wood, passed around a church congregation in order to collect donations of money.
▸ a course of a meal, served on one plate: *I'll have the salad plate.*
▸ an individual meal, with reference to its cost: *a gala \$1,000-a-plate dinner.*
▸ [BIOLOGY] a shallow glass dish on which a culture of cells or microorganisms may be grown.
▸ dishes, bowls, cups, and other utensils made of gold, silver, or other metal.
<ORIGIN>from Old French *vaisselle en plate* 'dishes and plates made of a single piece of metal'.
▸ a silver or gold dish or trophy awarded as a prize in a race or competition: *she lifted the plate in victory.*
▸ [in names] BRIT. a race or competition in which such a prize is awarded: *the final of the Ladies' Plate at Henley.*
2 a thin, flat sheet or strip of metal or other

plate [search dictionary](#) ▶

Dictionary search is activated by typing while on a full listing screen.

Recursive Dictionary

[plate /plāt/
■ n.
1 a flat dish, typically circular and made of china, from which food is eaten or served.
<SPECIAL USAGE>
▸ an amount of food on such a dish: *a plate of spaghetti.*
▸ a flat dish, typically made of metal or wood, passed around a church congregation in order to collect donations of money.
▸ a course of a meal, served on one plate: *I'll have the salad plate.*
▸ an individual meal, with reference to its cost: *a gala \$1,000-a-plate dinner.*
▸ [BIOLOGY] a shallow glass dish on which a culture of cells or microorganisms may be grown.
▸ dishes, bowls, cups, and other utensils made of gold, silver, or other metal.
<ORIGIN>from Old French *vaisselle en plate* 'dishes and plates made of a single piece of metal'.
▸ a silver or gold dish or trophy awarded as a prize in a race or competition: *she lifted the plate in victory.*
▸ [in names] BRIT. a race or competition in which such a prize is awarded: *the final of the Ladies' Plate at Henley.*

plate n. 1 a flat dish, typically circular and made of china, from which food is eaten or served. an [more](#) ⓘ
Begin typing to create a note or click to start a highlight

Moving the cursor with the 5-way while in a dictionary entry activates the on-page dictionary.

If the cursor is moved, the search field disappears and can't be retrieved.

Search Dictionary

The New Oxford American Dictionary

plate
plate appearance
plate armor
plate glass
Plate River
plate tectonics
plateau
plateful
plateless
platelet
platemaker
platen
plater
plateresque
plate-tectonic
platform
platform bed

plate [search dictionary](#) ▶

Typing in the search field activates the dictionary search, which lists the word in the search field and a list of terms that follow it alphabetically. Using the 5-way to select a term and pressing the return key will bring up the full listing for that term.

What Is Kindle?

Bookmarks

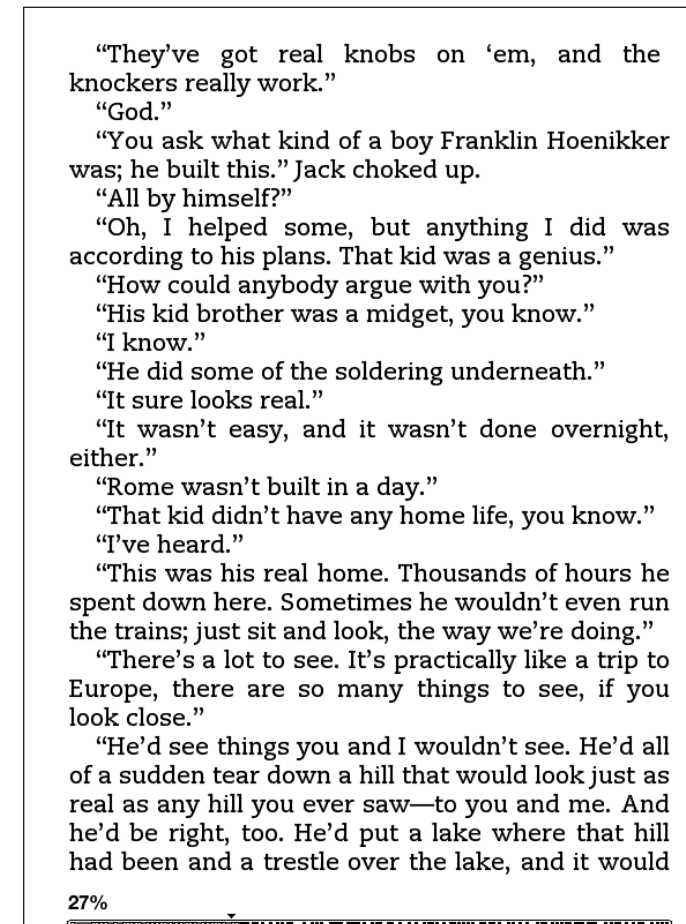
Bookmarks can be left in Kindle e-books.

Entering a Bookmark



Bookmarks are added by opening the Menu and selecting Add a Bookmark.

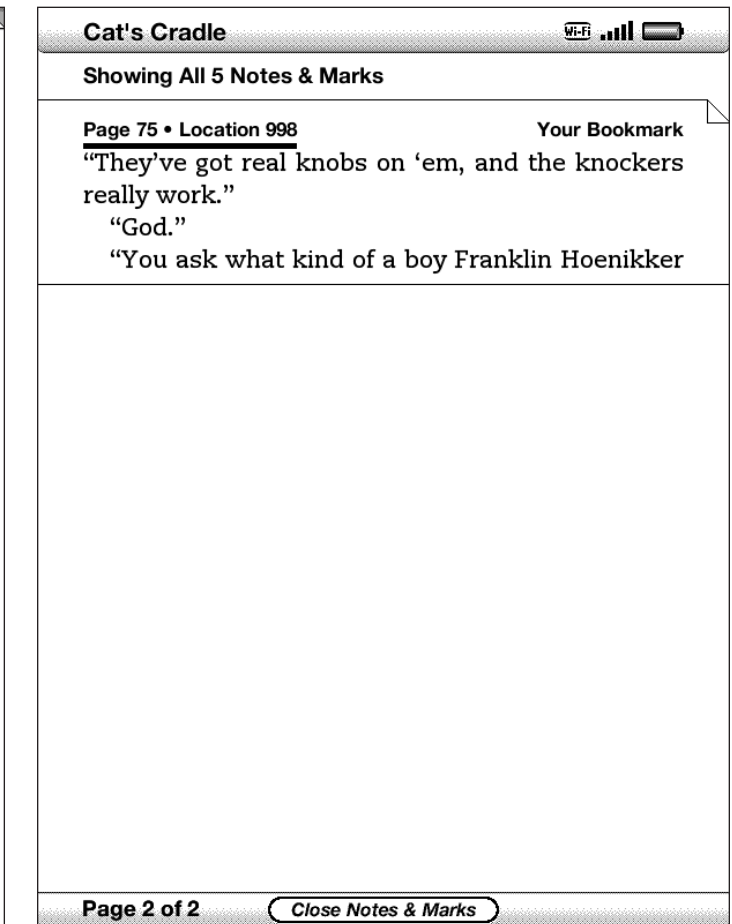
Bookmark Added



Bookmarks are indicated by a dog-eared page graphic in the upper right corner of the screen.

In the Notes & Marks menu, bookmarks are also indicated by a dog-eared page graphic.

Reviewing Bookmarks



Bookmarks are accessed via the Menu and allow a user to return to the bookmarked page.

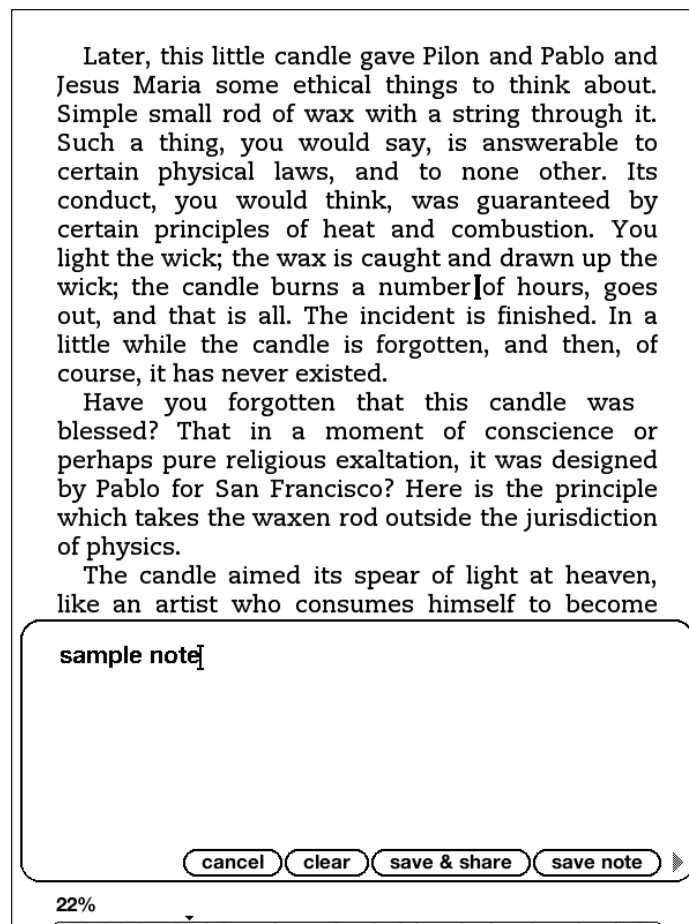
What Is Kindle?

Notes

Users can create notes in their e-books; however there is no way to turn on all notes so that they will all be visible while reading (without individually selecting them).

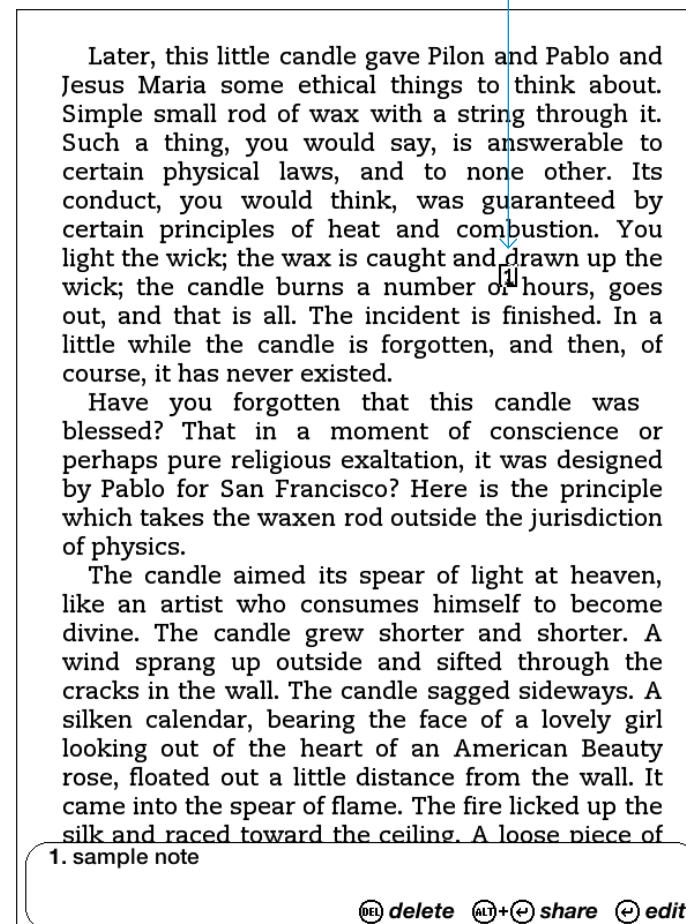
Reversed out note numbers make an unsightly blotch on the page

Entering a Note



Notes can be added by using the 5-way to move the cursor and typing when it is positioned at the appropriate place.

Reviewing a Note



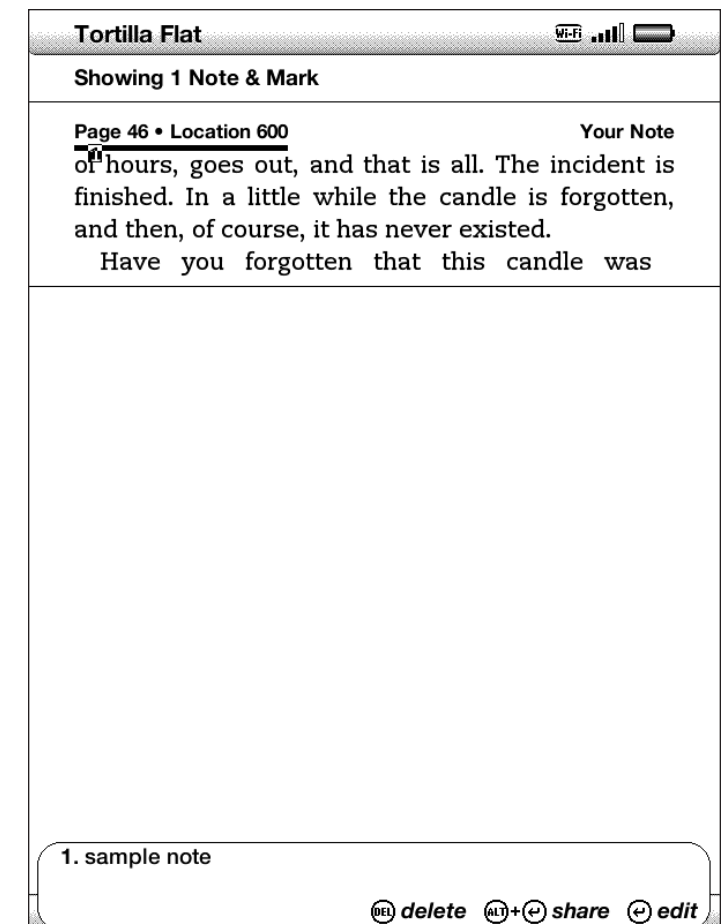
When reading later, moving the cursor onto a note number will reveal the text of the note.

Accessing All Notes



Notes (and bookmarks and highlights) can be reviewed from a listing (accessed via the Menu).

Viewing All Notes for a Book



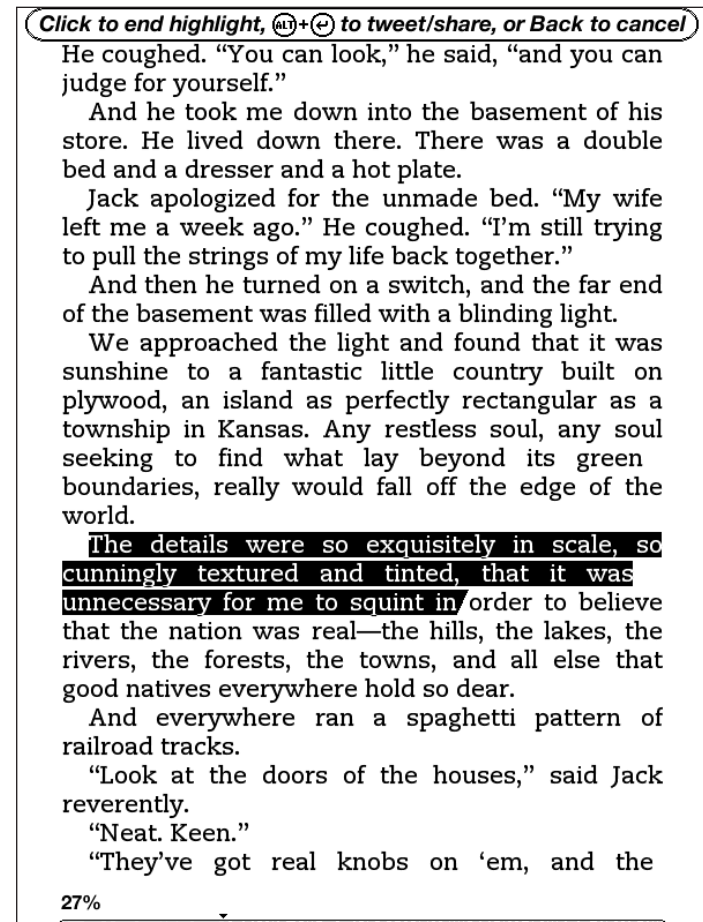
What Is Kindle?

Highlights

Kindle users can add highlights that will be saved. Highlights can have notes attached to them – both the highlight and the note can be shared on Facebook and Twitter.

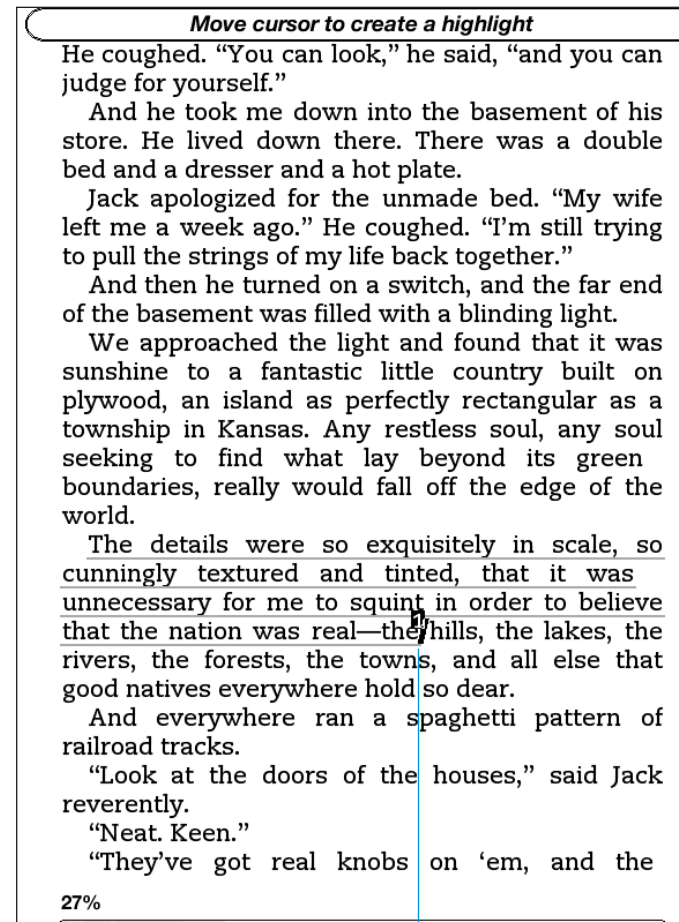
There is no way to activate all notes attached to highlights so they will be visible while reading.

Highlighting Text



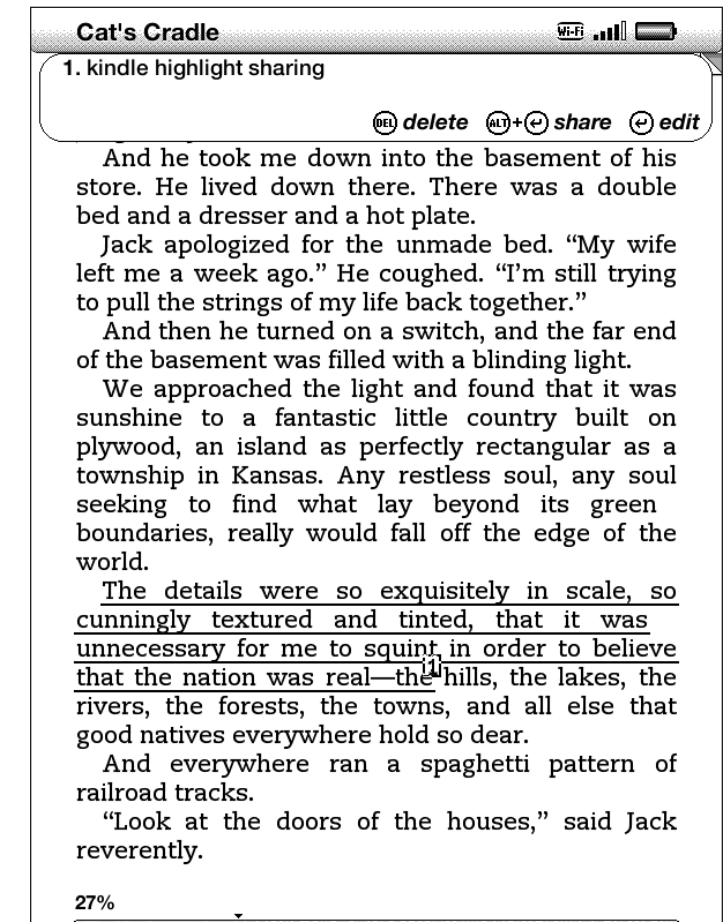
When using the 5-way to move the cursor on the screen, pressing the center button begins the highlight process. Once in highlight mode, moving the cursor will highlight text beginning from where the center button was pressed.

Highlighted Text



User entered highlights are represented by a solid gray line. Highlights can have notes attached to them. Using the 5-way to select a highlight number enables a user to access the attached note.

Viewing a Note Attached to a Highlight



When a highlight has been accessed, the underline turns black. Highlight text is positioned relative to the highlight and intended to never cover the highlight.

What Is Kindle?

Popular Highlights

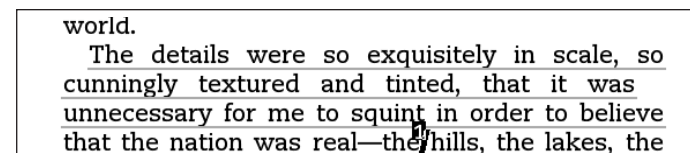
Popular highlights – an aggregation of the most popular highlighted passages added by other users – are also accessible for most books. Popular highlights can be turned on or off in the settings menu.

The popular highlights feature makes use of an algorithm for determining what is and is not “popular” – some cut-off number below which highlights are not deemed popular – this number appears to be three.

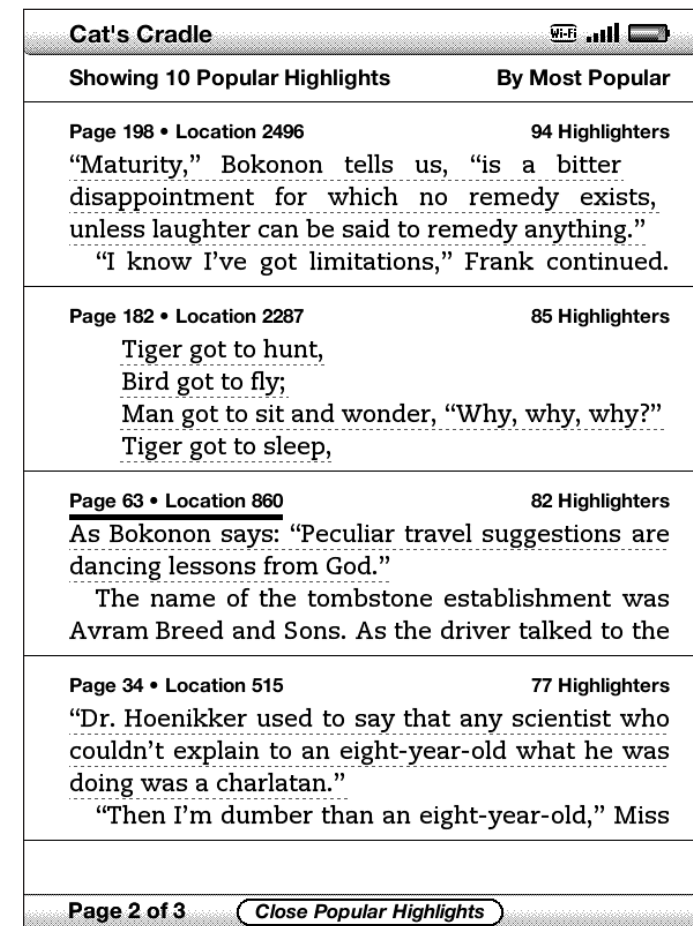
Selecting Popular Highlights in the Menu



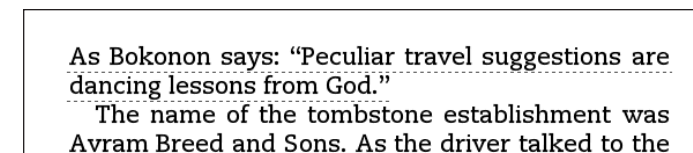
Highlights are represented by a solid line.



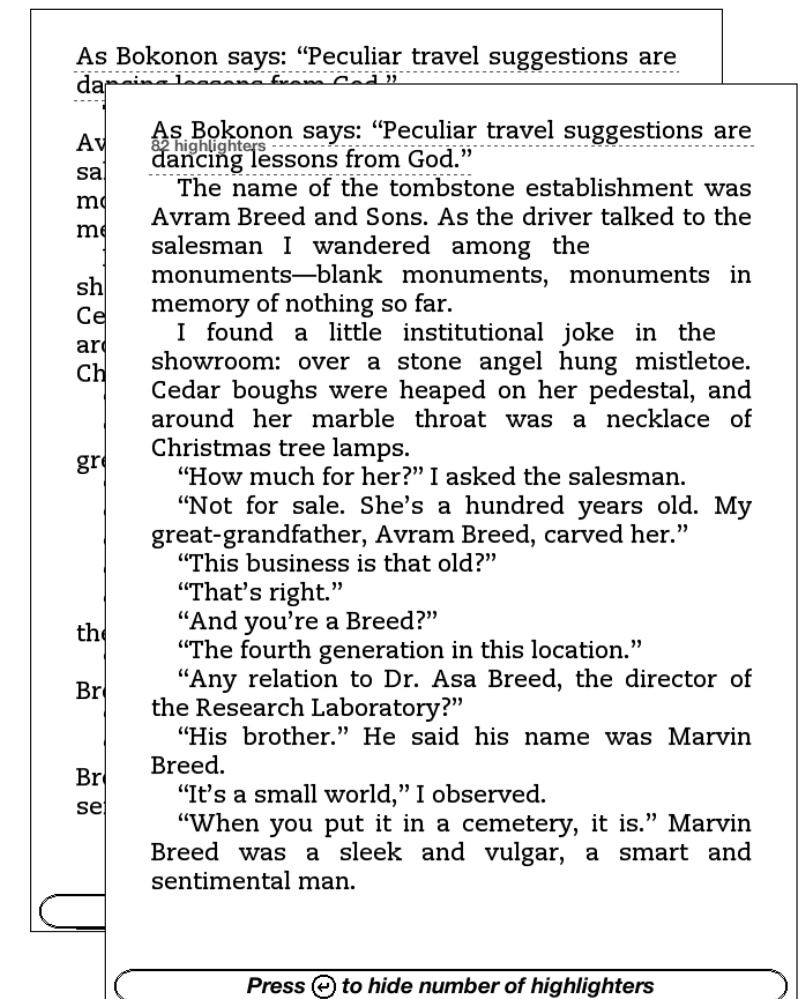
Popular Highlights Menu



Popular Highlights are represented by a dashed line.



Viewing a Popular Highlight



When a popular highlight is accessed, it appears at the top of the screen, and users are given the option of exposing how many people have highlighted the selection.

What Is Kindle?

Social

Highlights can be shared on Facebook and Twitter.

Sharing Highlights

spent down here. Sometimes he wouldn't even run the trains; just sit and look, the way we're doing."
"There's a lot to see. It's practically like a trip to Europe, there are so many things to see, if you look close."
"He'd see things you and I wouldn't see. He'd all of a sudden tear down a hill that would look just as real as any hill you ever saw—to you and me. And he'd be right, too. He'd put a lake where that hill had been and a trestle over the lake, and it would look ten times as good as it did before."
"It isn't a talent everybody has."
"That's right!" said Jack passionately. The passion cost him another coughing fit. When the fit was over, his eyes were watering copiously. "Listen, I told that kid he should go to college and study some engineering so he could go to work for American Flyer or somebody like that—somebody big, somebody who'd really back all the ideas he had."
"Looks to me as if you backed him a good deal."

Enter Your Message
A link to your highlight will be appended to your message.

sharing a highlight

81 characters left

27%

Confirmation of a Shared Highlight

Message shared
spent down here. Sometimes he wouldn't even run the trains; just sit and look, the way we're doing."
"There's a lot to see. It's practically like a trip to Europe, there are so many things to see, if you look close."
"He'd see things you and I wouldn't see. He'd all of a sudden tear down a hill that would look just as real as any hill you ever saw—to you and me. And he'd be right, too. He'd put a lake where that hill had been and a trestle over the lake, and it would look ten times as good as it did before."
"It isn't a talent everybody has."
"That's right!" said Jack passionately. The passion cost him another coughing fit. When the fit was over, his eyes were watering copiously. "Listen, I told that kid he should go to college and study some engineering so he could go to work for American Flyer or somebody like that—somebody big, somebody who'd really back all the ideas he had."
"Looks to me as if you backed him a good deal."
"Wish I had, wish I could have," mourned Jack. "I didn't have the capital. I gave him stuff whenever I could, but most of this stuff he bought out of what he earned working upstairs for me. He didn't spend a dime on anything but this—didn't drink, didn't smoke, didn't go to movies, didn't go out with girls, wasn't car crazy."
"This country could certainly use a few more of

27%

Shared Highlight on Facebook

Share: Status Question Photo Link Video

What's on your mind?

Michael Gallagher
sharing a highlight

Shared from Cat's Cradle
kindle.amazon.com

"Listen, I told that kid he should go to college and study some engineering so he could go to work for American Flyer or somebody like that—somebody big, somebody who'd really back all the ideas he had."

57 seconds ago via Kindle · Like · Comment

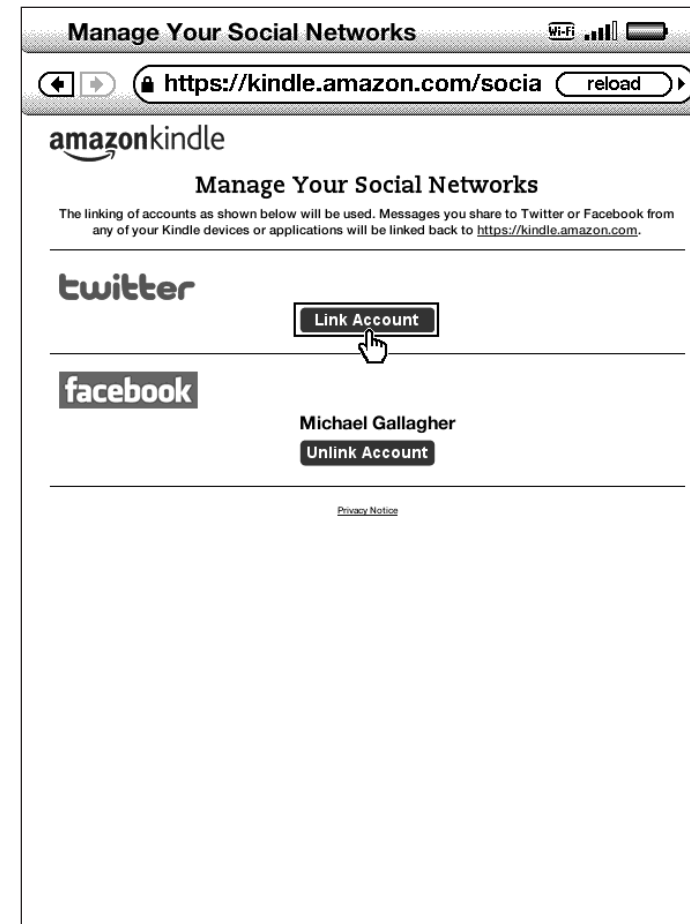
Highlights shared on Facebook include links to purchase the book on Amazon.

What Is Kindle?

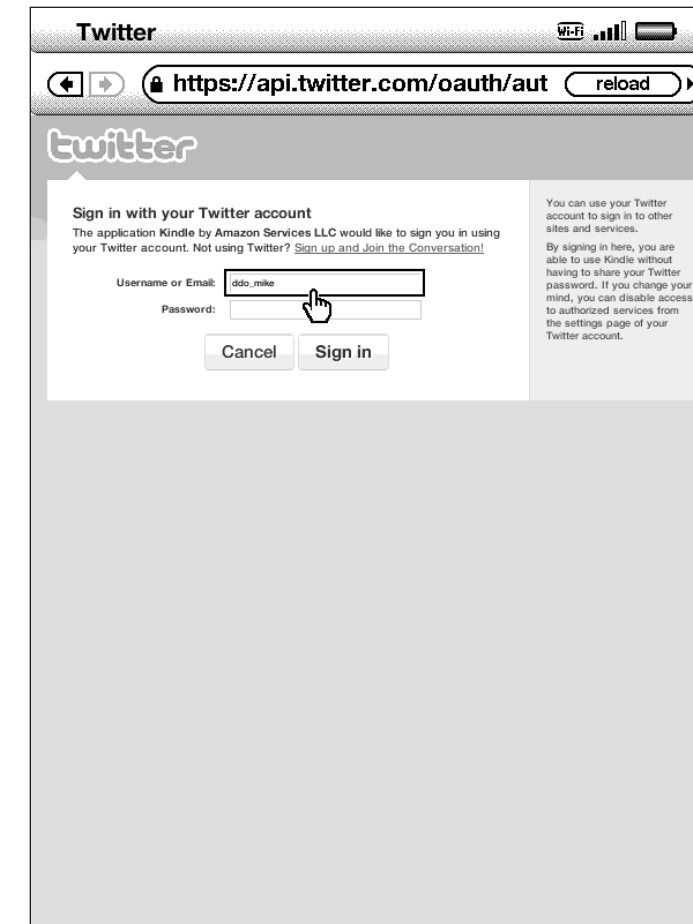
Social

Logging in to Twitter is difficult due to the reduced size of the login forms.

Accessing Twitter



Twitter Login

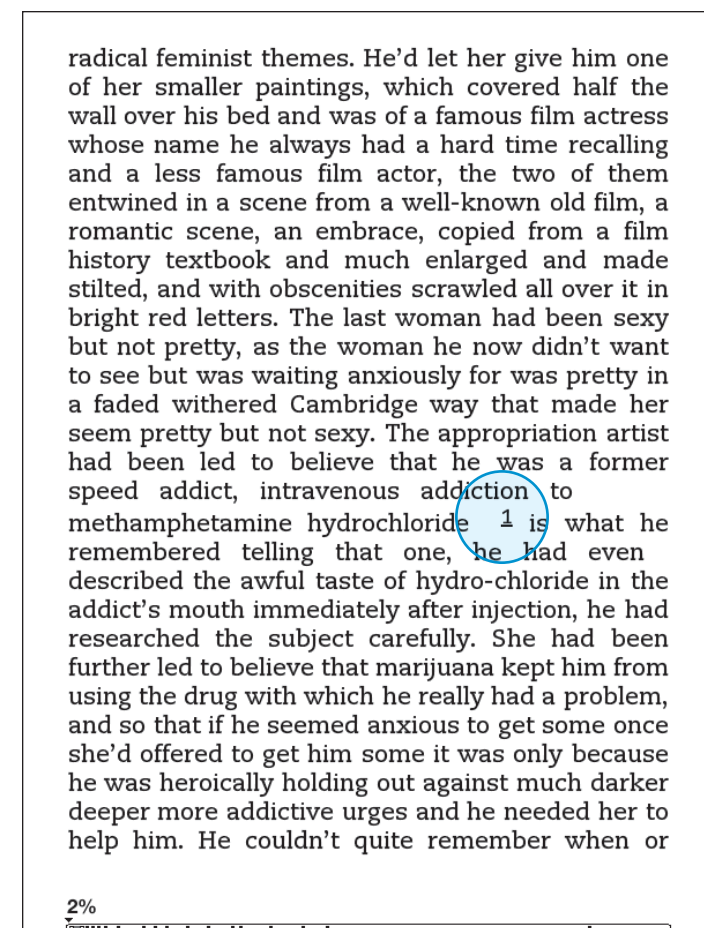


What Is Kindle?

Footnotes

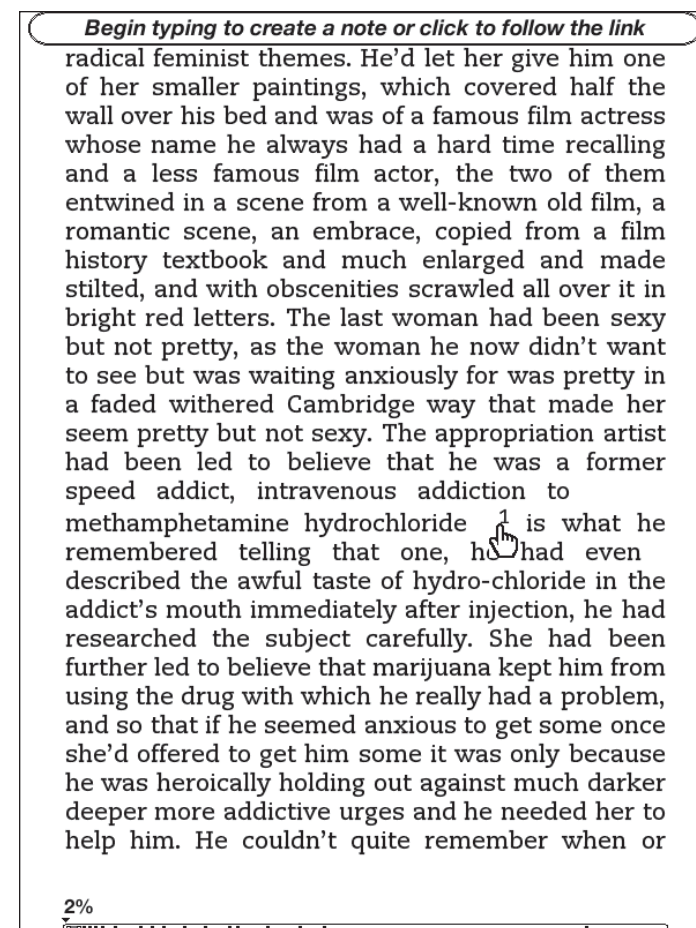
Footnotes in Kindle e-books are always located at the end of the book.

Footnote Indication



Footnotes are indicated by an underlined superscript number. Spacing between the note number and text it refers to is awkward, with the note number sometimes being further from the text it refers to than the following text.

Accessing a Footnote



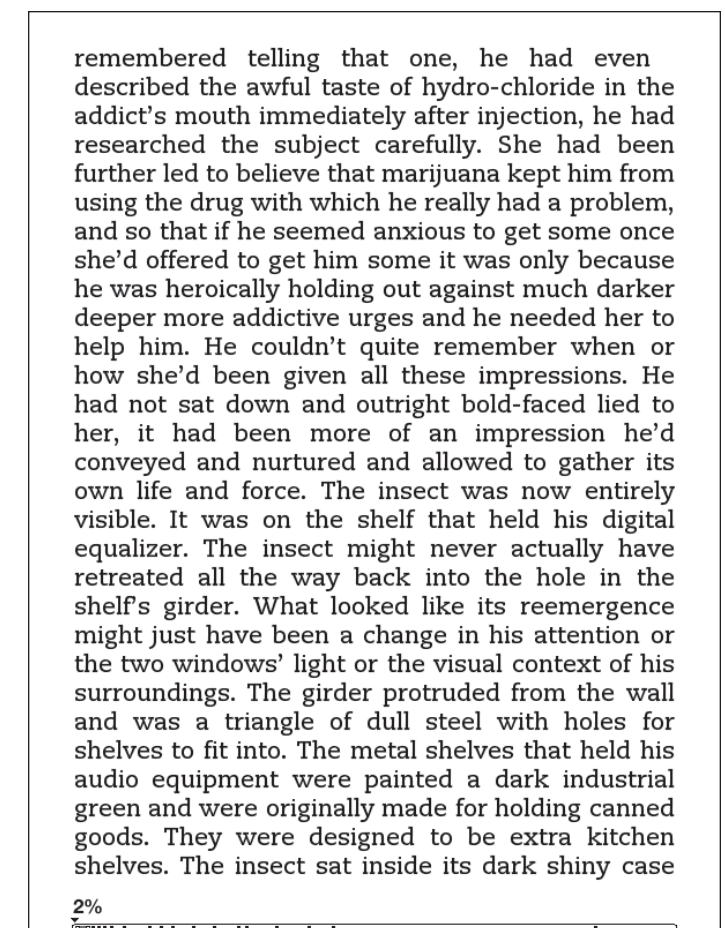
Note numbers can be clicked on to access the footnote.

Footnote Display



Footnotes and endnotes are located at the end of the e-book, regardless of where the original books placed them (at the bottom of the page or at the end of the chapter/book).

"Back to Text"



When returning to the text from the footnote, often it is unclear where in the text the reader has travelled to – the original note is sometimes no longer on the screen.

What Is Kindle?

International Support

Kindle is currently not sold in:

Afghanistan	Lebanon
Algeria	Libya
Azerbaijan	Malaysia
Bahrain	Maldives
Bangladesh	Mali
Brunei Darussalam	Mauritania
Burkina Faso	Morocco
Chad	Niger
China?	Nigeria
Cuba	Oman
Djibouti	Pakistan
Egypt	Palestinian Territories
Eritrea	Qatar
Gambia	Saudi Arabia
Guinea	Senegal
Indonesia	Sierra Leone
Iran	Singapore?
Iraq	Somalia
Jordan	Sudan
Kazakhstan	Syrian Arab Republic
Korea?	Tajikistan
Kuwait	Tunisia
Kyrgyzstan	Turkey
	Turkmenistan
	United Arab Emirates
	Uzbekistan
	Yemen

Level of Support	Country Availability							
	U.S.	France	Italy	Germany	Spain	China	Japan	Korea
Sold in country	x	-	-	x	-	Q3 2011?	Q3 2011?	-
Fonts built in and displayed in Reader	x	x	x	x	x	x	x	x
Fonts built in and displayed in UI (fully localized)	x	-	-	-	-	-	-	-
Whispersync network in country	x	-	-	-	-	-	x	-

Source: logkindle.com/2009/10/international-release-of-kindle-2/

What Is Kindle?

Application Features

	Applications										
Features	Amazon Kindle Future (Kindle, Kindle DX, +++)	Amazon Kindle Today (Kindle and Kindle DX)	Apple iOS (iPhone, iPad, iPod Touch)	Google Android	Microsoft Windows Phone 7 Developed outside	RIM BlackBerry OS New OS/UI coming to US	HP/Palm webOS via SDK	Nokia Symbian	Apple OS	Windows	Kindle for the Web
Mobi 8 .prc, .mobi, .azw	X	-	-	-	-	-	-	-	-	-	-
Mobi 7 .prc, .mobi, .azw	X	X	X	X	X	-	-	-	X	-	-
Topaz .tpz, .azw1	X	X	X	X	X	-	-	-	-	-	-
PDF .pdf	X	X	-	-	-	-	-	-	-	-	-
Web Browser .html	X	X	-	-	-	-	-	-	-	-	-
Typefaces	Caecilia Helvetica Neue Kindle Symbol Code2000 Blackbox Ying Hei (CH) Monotype Sung (CH) TB Gothic (JP) TB Mincho (JP) HY Gothic (KR) HY MyeongJo (KR)	Caecilia Helvetica Neue Kindle Symbol Code2000 Blackbox MHei (Simplified CH) MHei (Traditional CH) Heisei Maru Gothic (JP) Hangul Gothic (KR)*	Georgia	Droid Serif Georgia?	Georgia	-	-	-	Georgia	-	Georgia
Hyphenation	-	-	X	X	X	-	-	-	-	-	-

* Installed but doesn't display

How Does Kindle Encode Fonts?

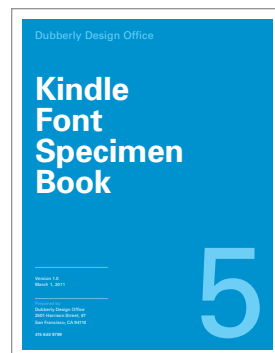
Fonts Available on Kindle

The third generation Kindle and Kindle DX models currently include nine fonts:

- 1 Caecilia
- 2 Helvetica Neue
- 3 Kindle Symbol
- 4 Code2000
- 5 Blackbox
- 6 MHei (Simplified Chinese)
- 7 MHei (Traditional Chinese)
- 8 Heisei Maru Gothic (Japanese)
- 9 Hangul Gothic (Korean)

The condensed versions of Caecilia is algorithmically generated from the regular outlines.

Please see the *Kindle Font Specimen Book* for screenshots and detailed tables (code pages) showing every character from every font available in the Kindle today.



1. Caecilia

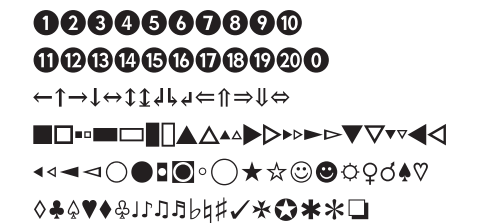
Caecilia Medium
Caecilia Medium Italic
 Caecilia Bold
Caecilia Bold Italic

Caecilia Condensed Medium
Caecilia Condensed Medium Italic
 Caecilia Condensed Bold
Caecilia Condensed Bold Italic

2. Helvetica Neue

Helvetica Neue Medium
Helvetica Neue Medium Italic
 Helvetica Neue Bold
Helvetica Neue Bold Italic

3. Kindle Symbol



4. Code2000

Code2000 Regular

5. Blackbox

Blackbox Regular
Blackbox Italic
 Blackbox Bold
Blackbox Bold Italic

6. MHei (Simplified Chinese)

电买开东车红无鸟热时语佛
 惠德拜黑冰兔妒听证龙卖龟
 岁战关铁图团转广恶丰脑杂
 压鸡乐气厅声学体点猫虫旧
 会万盗宝国医

电买开东车红无鸟热时语佛
 惠德拜黑冰兔妒听证龙卖龟
 岁战关铁图团转广恶丰脑杂
 压鸡乐气厅声学体点猫虫旧
 会万盗宝国医

7. MHei (Traditional Chinese)

電買開東車紅無鳥熱時語佛
 惠德拜黑冰兔妒聽證龍賣龜
 歲戰關鐵圖團轉廣惡豐腦雜
 壓雞樂氣廳聲學體點貓蟲舊
 會萬盜寶國醫

電買開東車紅無鳥熱時語佛
 惠德拜黑冰兔妒聽證龍賣龜
 歲戰關鐵圖團轉廣惡豐腦雜
 壓雞樂氣廳聲學體點貓蟲舊
 會萬盜寶國醫

8. Heisei Maru Gothic (Japanese)

あ	い	う	え	お	あ	い	う	え	お
か	き	く	け	こ	か	き	く	け	こ
さ	し	す	せ	そ	さ	し	す	せ	そ
た	ち	つ	て	と	た	ち	つ	て	と
な	に	ぬ	ね	の	な	に	ぬ	ね	の
は	ひ	ふ	へ	ほ	は	ひ	ふ	へ	ほ
ま	み	む	め	も	ま	み	む	め	も
や	ゆ	よ			や	ゆ	よ		
ら	り	る	れ	ろ	ら	り	る	れ	ろ
わ	ゐ	ゑ	を		わ	ゐ	ゑ	を	
ん					ん				

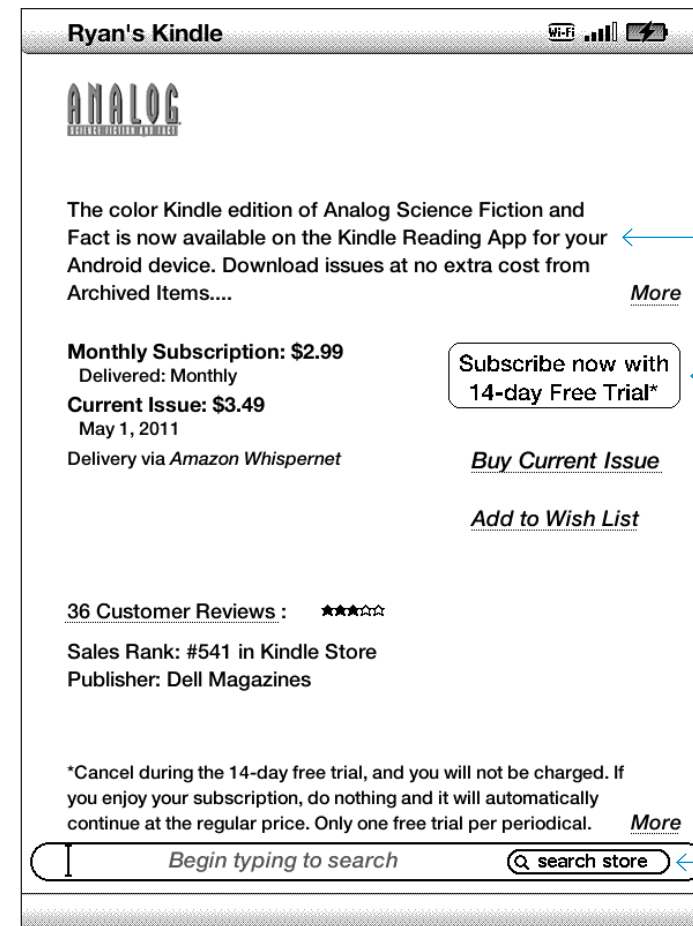
9. Hangul Gothic (Korean)

ㄱ	ㄴ	ㄷ	ㄹ	ㅁ	ㅂ	ㅅ	ㅇ	ㅈ	ㅊ
ㅊ	ㅊ	ㅊ	ㅊ	ㅊ	ㅊ	ㅊ	ㅊ	ㅊ	ㅊ
ㅊ	ㅊ	ㅊ	ㅊ	ㅊ	ㅊ	ㅊ	ㅊ	ㅊ	ㅊ
ㅊ	ㅊ	ㅊ	ㅊ	ㅊ	ㅊ	ㅊ	ㅊ	ㅊ	ㅊ
ㅊ	ㅊ	ㅊ	ㅊ	ㅊ	ㅊ	ㅊ	ㅊ	ㅊ	ㅊ

Aliased Helvetica

In addition to the fonts listed on the previous page, Kindle also includes a special version of Helvetica Neue that has no anti-aliasing. It is used sparingly in buttons and search fields as a way to speed up type rendering – generating anti-aliased bitmaps requires more computational resources than aliased bitmaps.

100%



400%

The color Kindle edition Fact is now available on

Anti-aliased Helvetica Neue

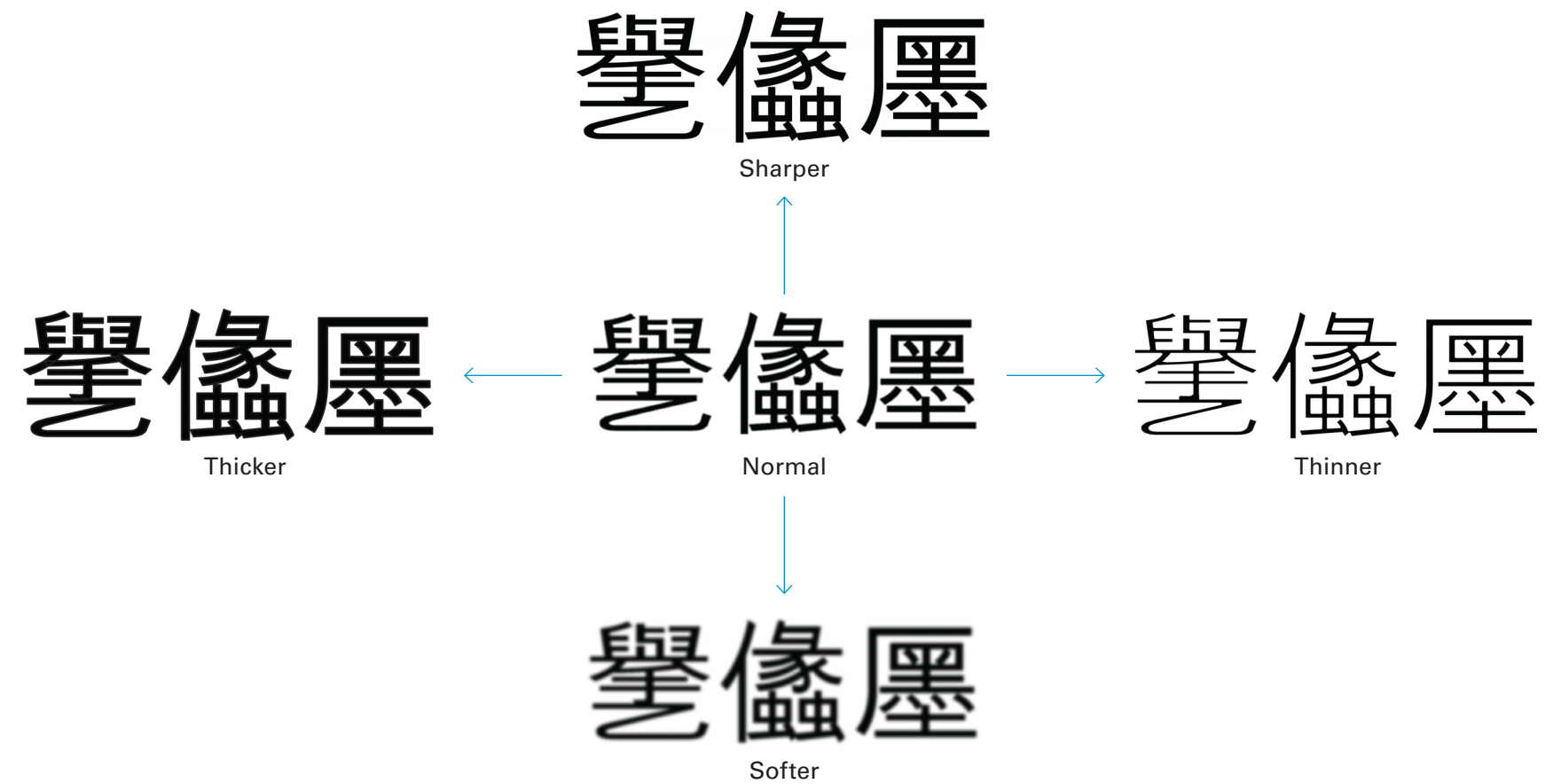
Subscribe now with 14-day Free Trial*

Aliased Helvetica Neue

How Does Kindle Render Fonts?

iType Continuous Stroke Modulation

Monotype supplies the iType font rendering engine used in Kindle. The iType font rendering engine controls how font outlines are rendered into bitmaps. This gives a high degree of control over how bitmaps appear on screen by providing options that allow the font outlines to be sharpened or softened.



There are two dimensions of tuning that can be applied to font appearance. Font tuning takes place before the device is shipped and allows for a large amount of flexibility and control over how glyph bitmaps are rendered.

How Does Kindle Render Fonts?

Font Linking Tree

This diagram shows the default order in which the layout manager searches fonts to find characters. Caecilia is the first choice (because it's optimized for e-ink).

If the layout manager can't find the correct character, then it moves down the list and searches the next font until it finds the character. Code2000 is the last choice (because it has a very large but low-quality character set). If none of the fonts contain the character, then the ".notdef" missing character glyph is displayed.

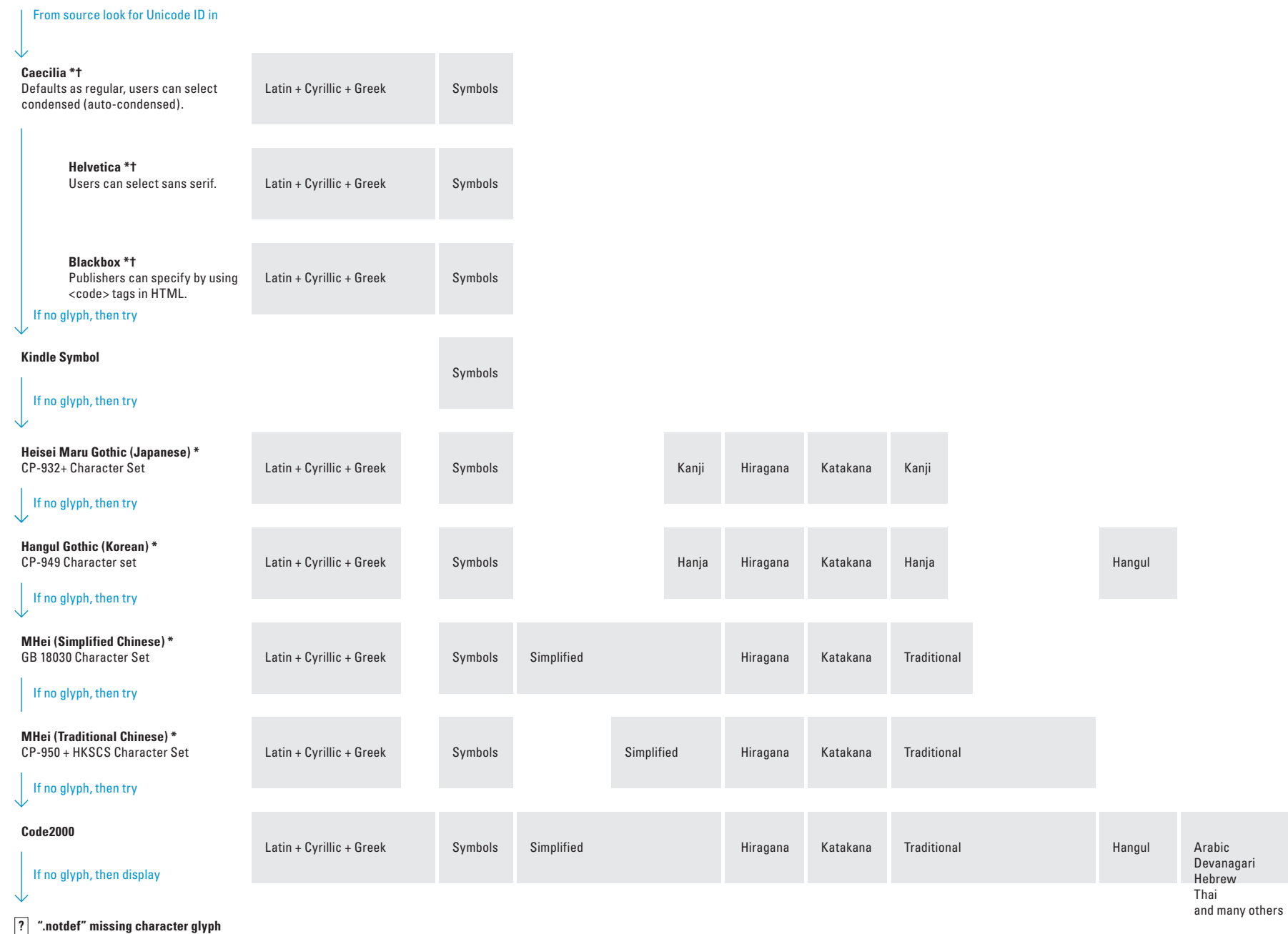
For CJK fonts, the language of the content determines which fallback order is used.

This diagram also shows that many of the fonts have overlapping character sets.

Kindle supports tags from HTML 1, e.g. bold, italic, code.

* Regular and Bold


† Italic and Bold Italic



Font Linking Tree order for CJK languages

	Japanese (J)	Korean (K)	Simplified Chinese (CS)	Traditional Chinese (CT)
J	1	4	4	4
K	2	1	3	3
CS	3	2	1	2
CT	4	3	2	1

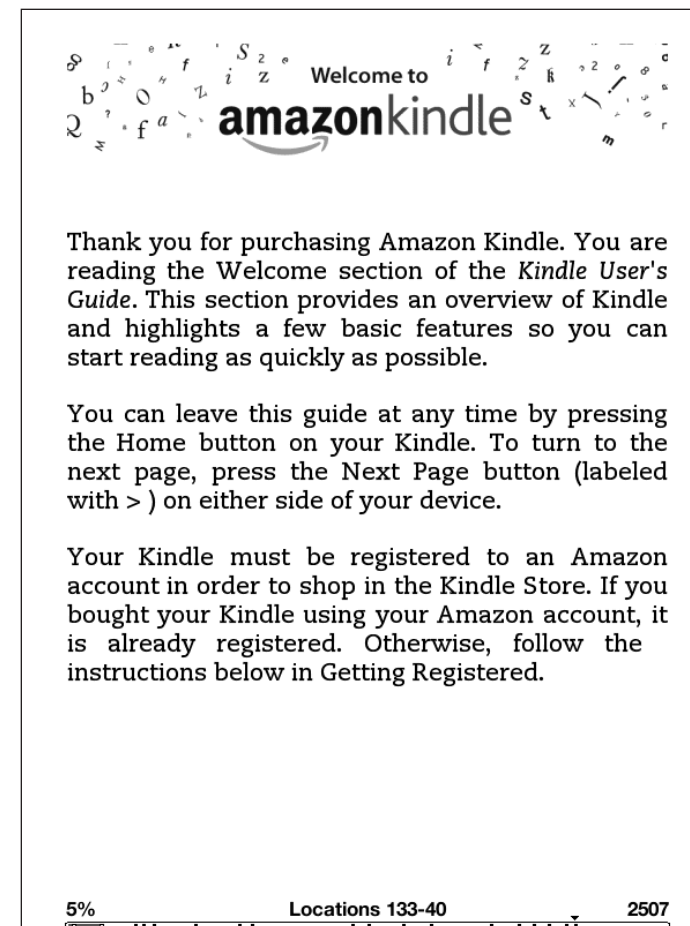
What Can Users Change When Reading a (Mobi 7) Kindle Book?

A variety of text options are available by pressing the  button on the Kindle keyboard. This section walks through each of the text options and shows how the text appearance is affected.

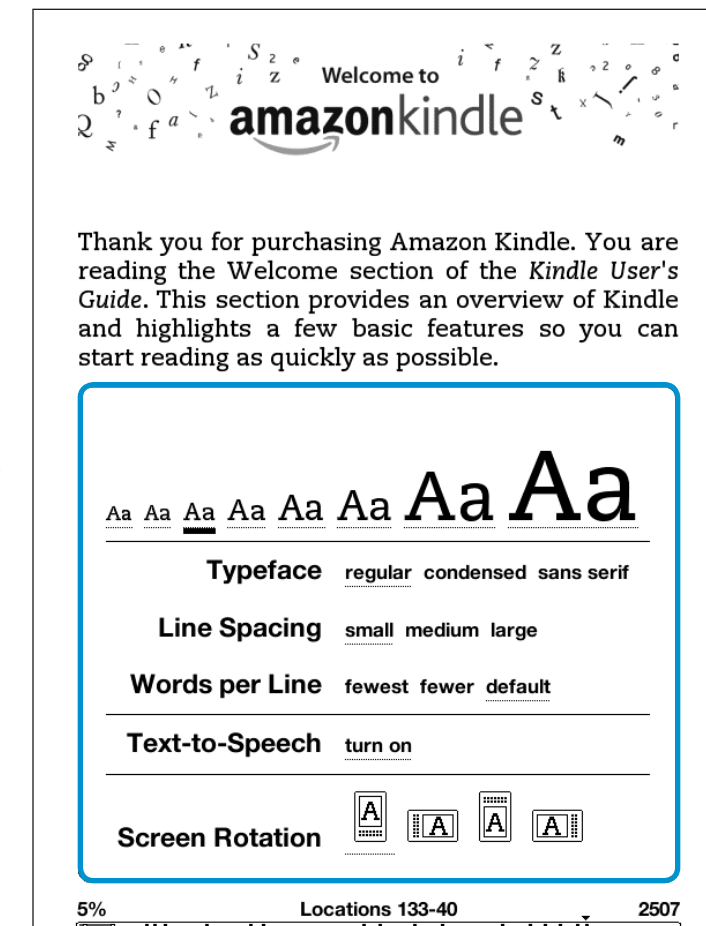
Text Options for Books (AZW)

Text options change depending on the type of content being viewed.

Book



Text Options Panel Open



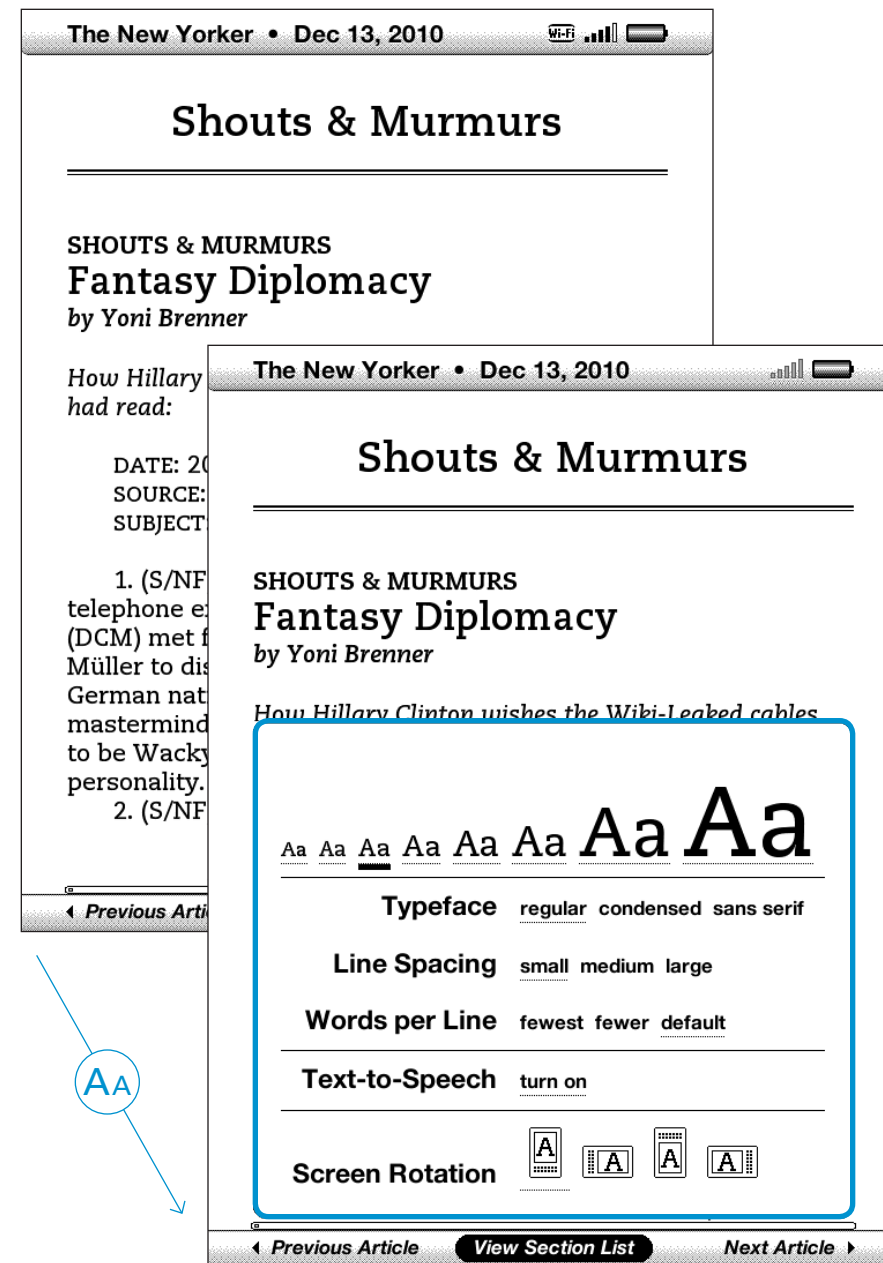
Text Options for Newspapers, Magazines, Blogs (AZW)

Newspaper



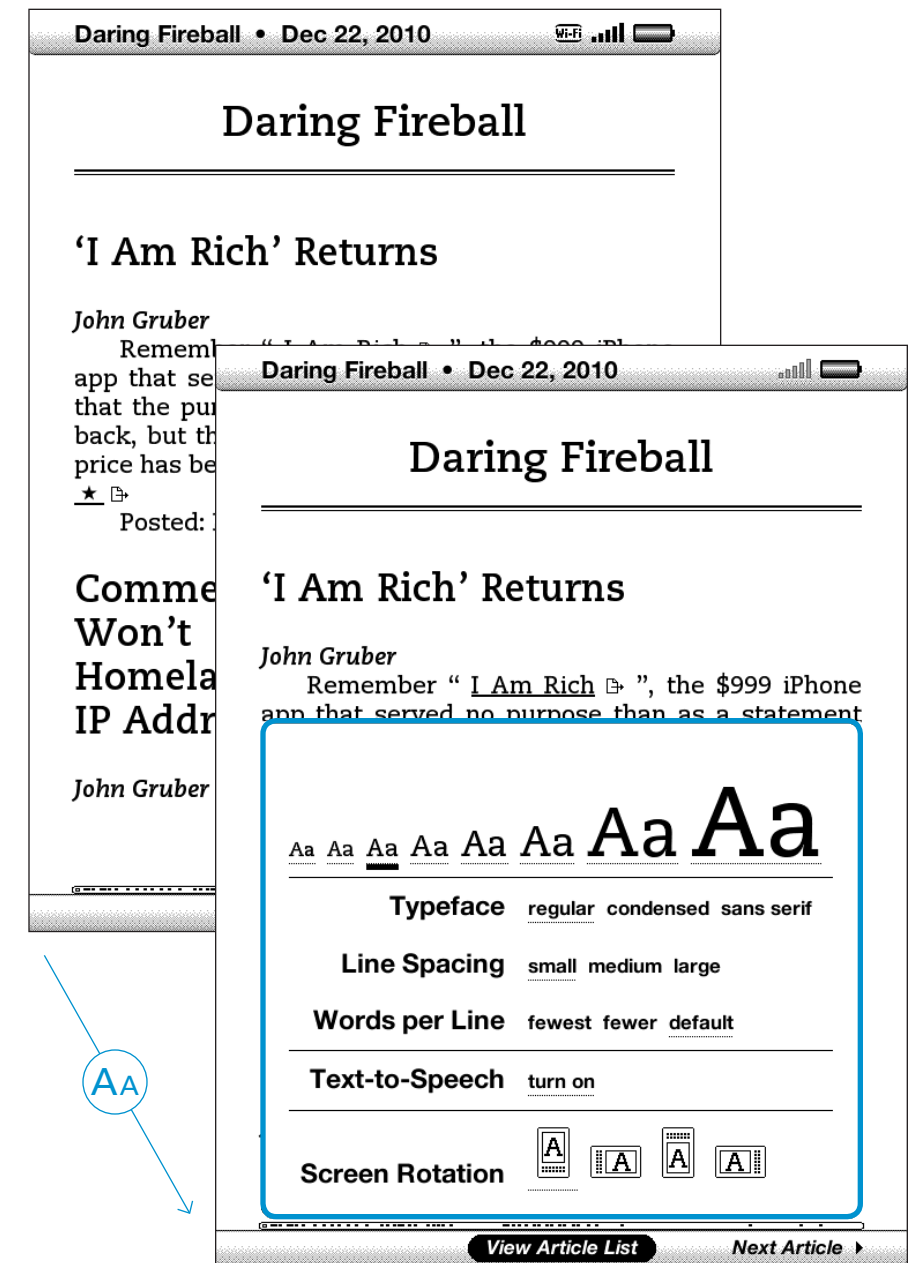
Text Options Panel Open

Magazine



Text Options Panel Open

Blog



Text Options Panel Open

What Can Users Change When Reading a Kindle Book?

Text Options for Websites (HTML)

Text options change depending on the type of content being viewed.

Website



Text Options Panel Open



The eight pre-determined type sizes for books are replaced with five percentage options.

Typeface, Line Spacing, Words per Line, and Text-to-Speech are all disabled. Screen Rotation remains enabled.

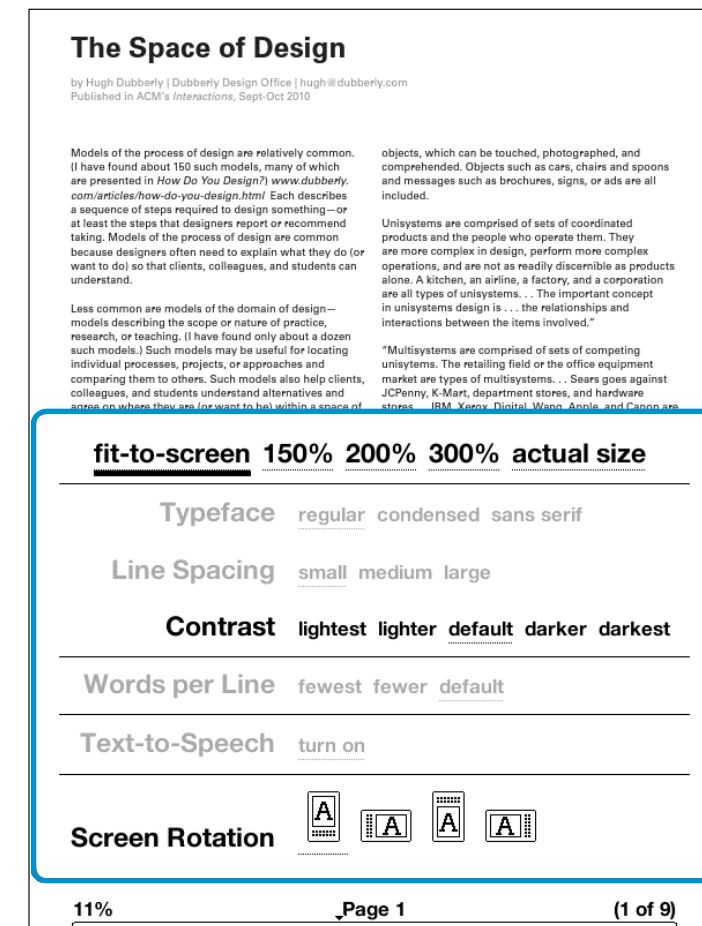
Text Options for PDF Documents

Text options change depending on the type of content being viewed.

Document



Text Options Panel Open



The eight pre-determined type sizes for books are replaced with five percentage options.

There are also five contrast settings.

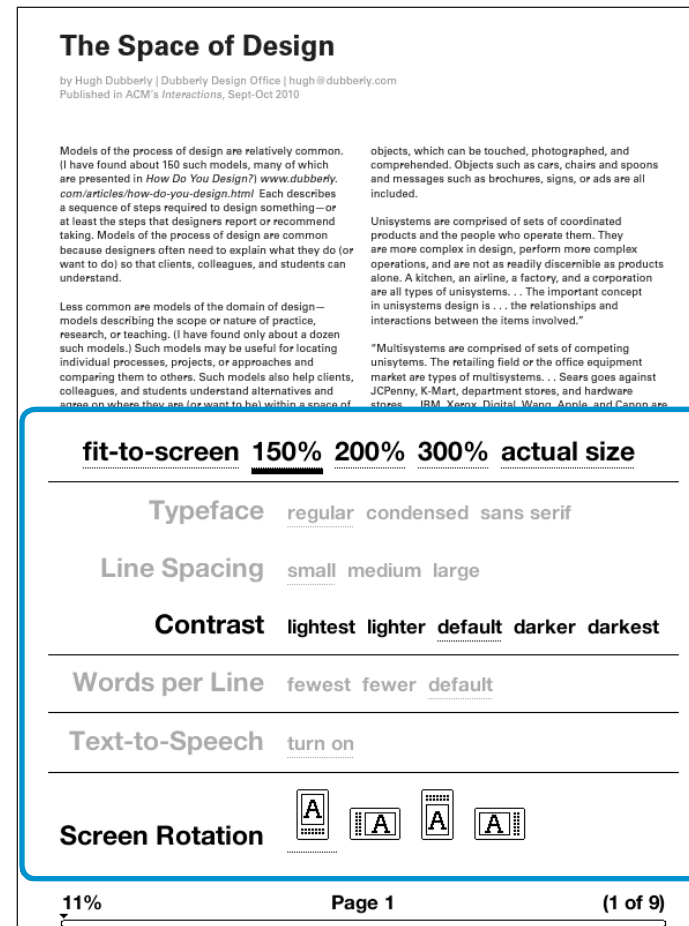
Text Options for PDF Documents: Zooming

Fit-to-screen



When accessing a PDF document, the default zoom level is for “fit-to-screen”.

Menu



Additional zoom levels can be accessed via the text options menu.

150%



Once zoomed in, the user can navigate the page with the 5-way controller.

What Can Users Change When Reading a Kindle Book?

Text Options for PDF Documents: Contrast

Default

The Space of Design
by Hugh Dubberly | Dubberly Design Office | hugh@dubberly.com
Published in ACM's Interactions, Sept-Oct 2010

Models of the process of design are relatively common. (I have found about 150 such models, many of which are presented in *How Do You Design?*) www.dubberly.com/articles/how-do-you-design.html Each describes a sequence of steps required to design something—or at least the steps that designers report or recommend taking. Models of the process of design are common because designers often need to explain what they do (or want to do) so that clients, colleagues, and students can understand.

Less common are models of the domain of design—models describing the scope or nature of practice, research, or teaching. (I have found only about a dozen such models.) Such models may be useful for locating individual processes, projects, or approaches and comparing them to others. Such models also help clients, colleagues, and students understand alternatives and agree on where they are (or want to be) within a space of possibilities.

Typically models of a domain are of three types:
1) Timelines
- Lists of events from the domain's history
- Links between events suggesting influences
2) Taxonomies
- Lists of sub-domains
- Trees branching into categories and sub-categories and so on
3) Spaces
- Venn diagrams indicating overlapping categories
- Matrices defining the dimensions of a space of possibilities or area of potential

Among the very few spatial models of the domain of design is Jay Doblin's 2 x 3 "Matrix of Design." The rows are performance and appearance; the columns are products, unisystems, and multisystems.

Doblin wrote, "A continuum exists between pure performance and pure appearance. Some products, such as crowbars or paper clips, are clearly performance products. Others, such as Christmas ornaments, medals, and trophies... are purely appearance products. Still others, like automobiles, cups, and chairs, are combinations of both. The essential point is most products (and messages) can be conceived as primarily performance or appearance oriented."

"Products, the simplest kind of design, are tangible

objects, which can be touched, photographed, and comprehended. Objects such as cars, chairs and spoons and messages such as brochures, signs, or ads are all included.

Unisystems are comprised of sets of coordinated products and the people who operate them. They are more complex in design, perform more complex operations, and are not as readily discernible as products alone. A kitchen, an airline, a factory, and a corporation are all types of unisystems... The important concept in unisystems design is... the relationships and interactions between the items involved."

"Multisystems are comprised of sets of competing unisystems. The retailing field or the office equipment market are types of multisystems... Sears goes against JCPenny, K-Mart, department stores, and hardware stores... IBM, Xerox, Digital, Wang, Apple, and Canon are all pitted against each other" [1].

Multiplying columns and rows yields "six types of design problems that are fundamentally different."

1) Performance Product Design—"The realm of product engineering, where "performance is quantitative."
2) Appearance Product Design—"The realm of product "styling" and style, "not easily quantified."
3) Performance Unisystems Design—"The realm of technical planning and methods, often associated with infrastructure, government, or military projects. (The Design Methods Movement grew out of this type of project.)
4) Appearance Unisystems Design—"Environments that... deliver a satisfying experience... usually designed by impresarios with an holistic approach. Projects begin with an overall vision of what the consumer's experience should be, then the details of the experience are painstakingly worked out." He cites as examples restaurants, worlds fairs, South Street Seaport, and Disneyland. (Doblin's emphasis on experience prefigures discussions of experience design and service design by several years.)
5) Performance Multisystems Design—"Groups of competing unisystems. Doblin gives no examples of performance multisystems.

11% Page 1 (1 of 9)

When accessing a PDF document, the default zoom level is for "fit-to-screen".

Menu

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11% Page 1 (1 of 9)

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Contrast options

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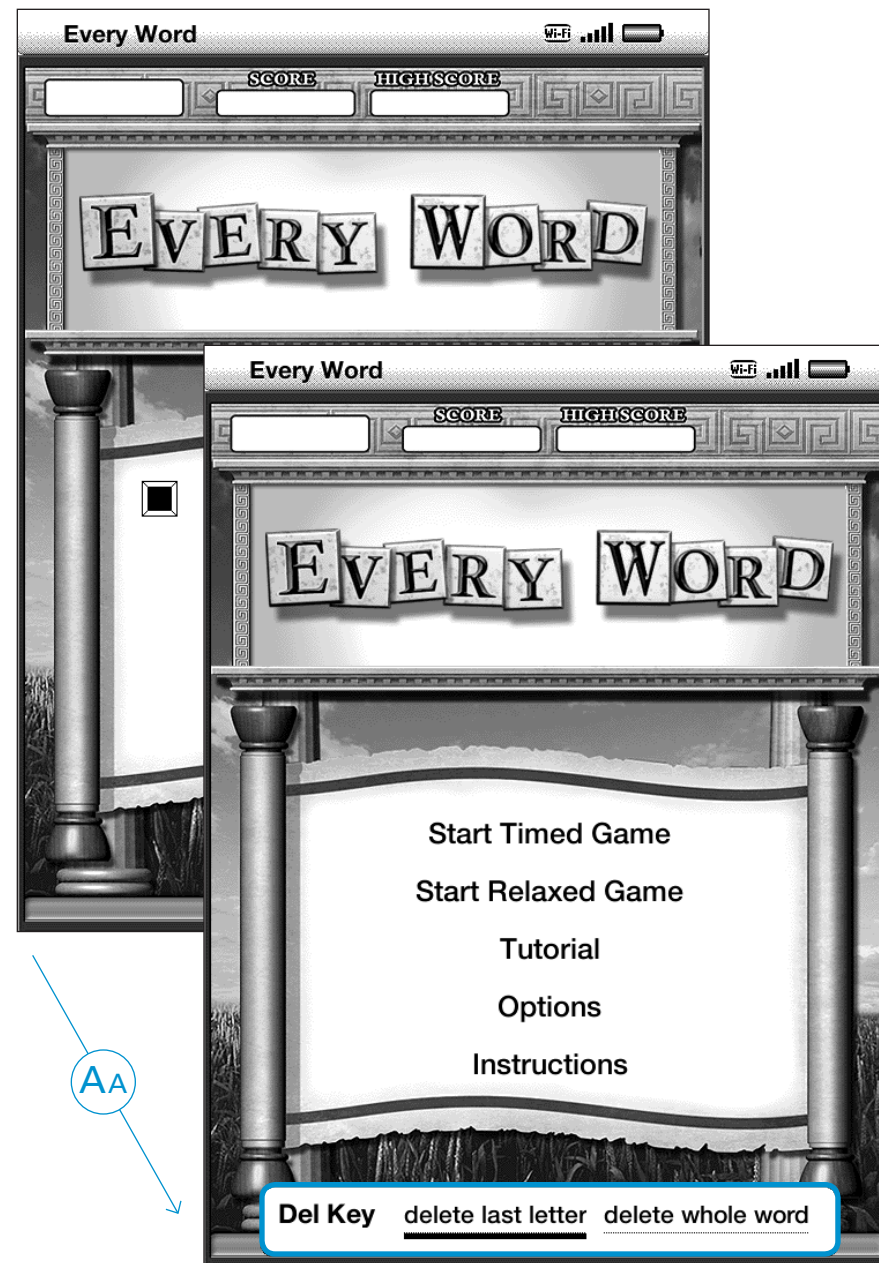
Text Options for Games (AZW)

Text options change depending on the game.

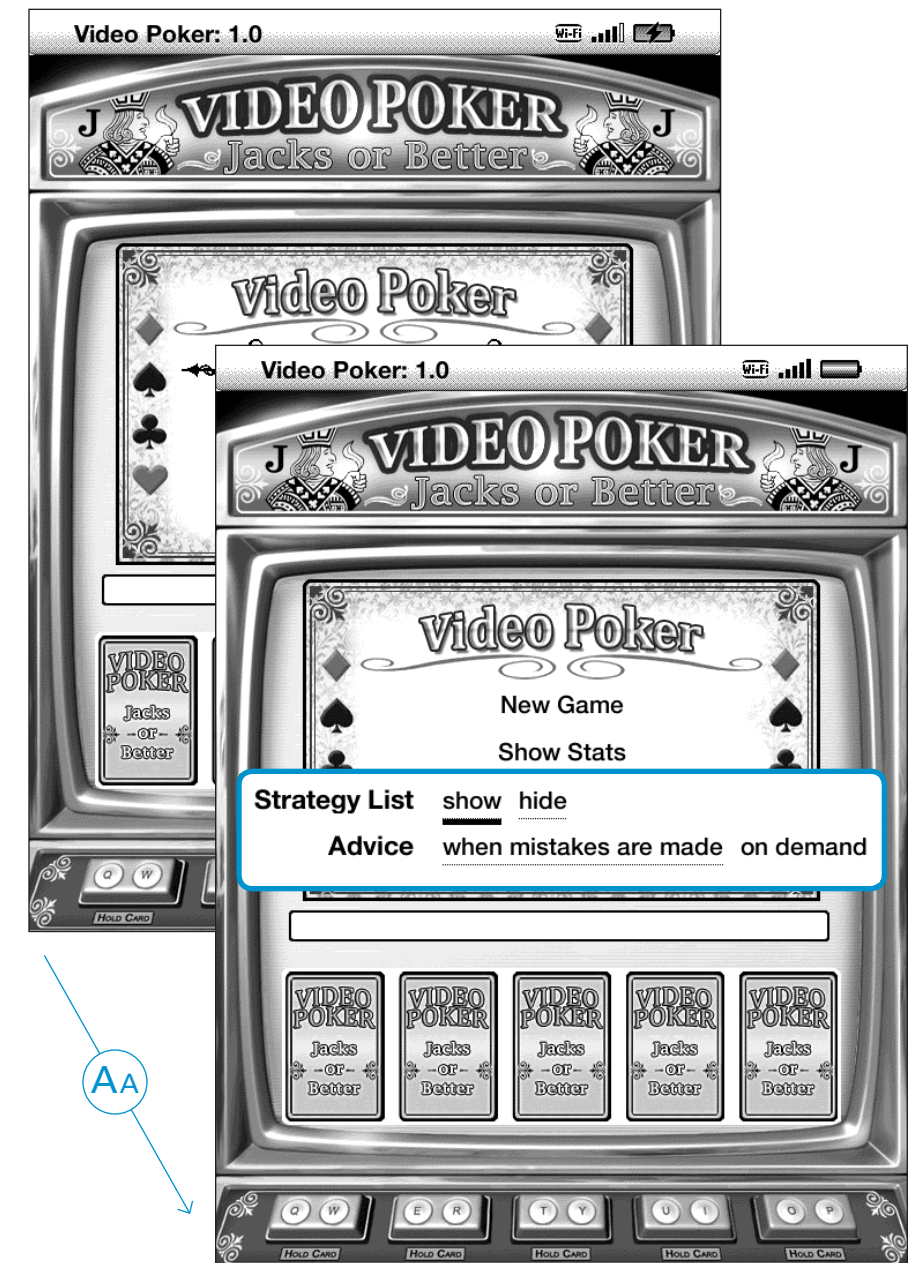
Game



Text Options Panel Open



Text Options Panel Open



Text Options Panel Open

Type Size

Setting One

25 point titles, 17 point text

CHAPTER 2
Getting to Know Kindle Content
The Kindle Home screen gives you an overall picture of what you currently have on your Kindle. It shows you what has arrived recently, what you are reading, and where you are in your reading. It also allows you to remove content from your Kindle and to move content from Amazon to your Kindle. Read below for more details.

2.1 The Home Screen
Your Home screen displays a list of all of your Kindle reading materials — books, newspapers, magazines, blogs, PDF files, personal documents, as well as audiobooks. It serves as a personal bookshelf for all of your reading material, as well as a starting point to access other Kindle features.

To display the Home screen, press the Home button on your Kindle. By default, the Home screen lists all of the items that you have on your Kindle beginning with the most recently viewed (or acquired) items. Each type of content has a slightly different description and label. You can read more about the types of content available in [Chapter 3](#).

Kindle Books
Books are shown by title and author. Below the book title are a series of dots which give you an approximation of how long the book is. Bold dots within the series indicate how far along you are in the book based on the last page you viewed.

Periodicals

21% Locations 530-42 2507

Unfortunate page breaks place the next title at the bottom of the page and separate it from the paragraph that follows.

Setting Two

32 point titles, 19 point text

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Your Home screen displays a list of all of your Kindle reading materials — books, newspapers, magazines, blogs, PDF files, personal documents, as well as audiobooks. It serves as a personal bookshelf for all of your reading material, as well as a starting point to access other Kindle features.

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Kindle Books
Books are shown by title and author. Below the book title are a series of dots which give you an

21% Locations 530-41 2507

Default Setting

Setting Three

34 point titles, 21 point text

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Kindle Books

21% Locations 530-40 2507

Setting Four

36 point titles, 25 point text

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21% Locations 530-36 2507

Full justification creates awkward word spacing.

Type Size

Setting Five

40 point titles, 31 point text

CHAPTER 2
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2.1 The Home Screen
Your Home screen displays a list of all of your Kindle reading

21% Locations 530-35 2507

Setting Six

48 point titles, 36 point text

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Getting to Know Kindle Content
The Kindle Home screen gives you an overall picture of what you currently have on your Kindle. It shows you what has arrived recently, what you are reading, and where you are in your reading. It also allows you to remove content from your Kindle and to move content from Amazon to your Kindle. Read below for more details.

21% Locations 530-33 2507

Setting Seven

70 point titles, 60 point text

CHAPTER 2
Getting to Know Kindle Content
The Kindle Home screen gives you an overall picture of what you currently have

21% Locations 530-32 2507

Setting Eight

93 point titles, 86 point text (not shown)

CHAPTER 2
Getting to Know Kindle Content

21% Locations 530-31 2507

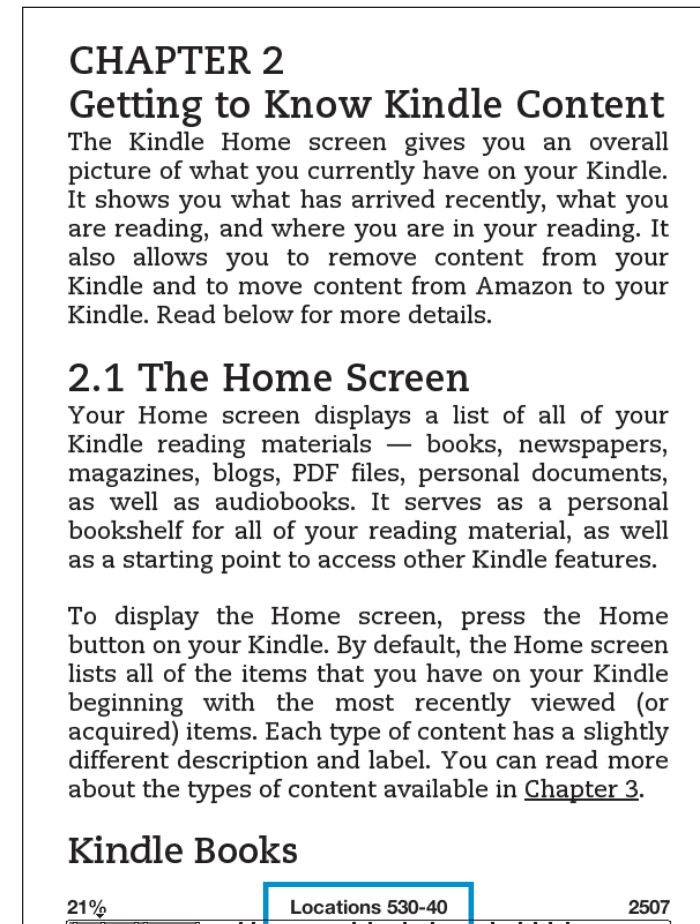
Full justification creates awkward word spacing and justification errors resulting from not enough words on a line and a maximum allowed word-spacing limit being reached.

Typeface

Default Setting

Regular

Caecilia Roman

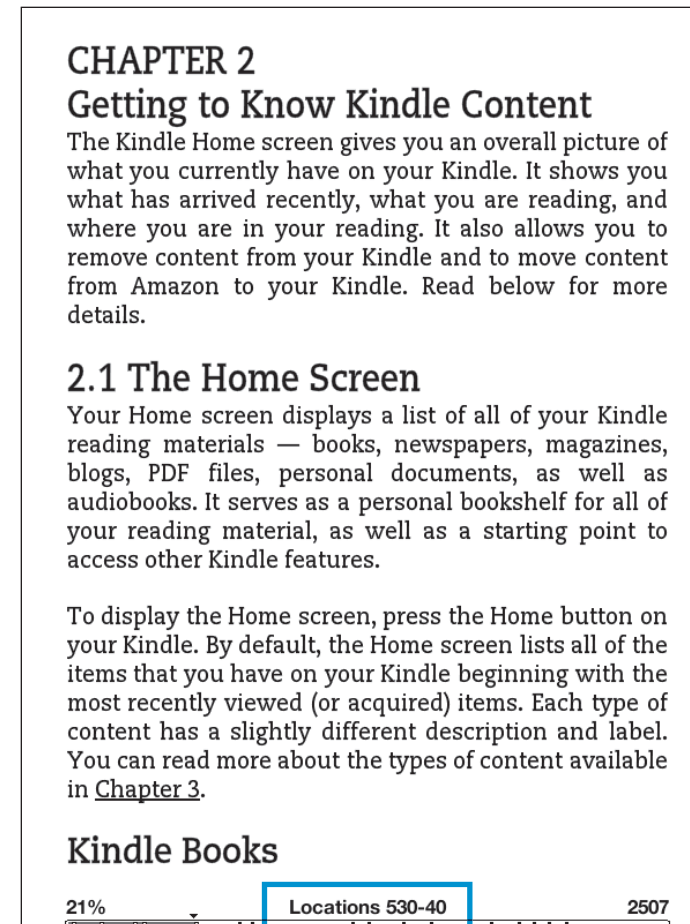


Set in Caecilia regular, the first line fits eight words per line.

Average characters per line: 47

Condensed

Caecilia Condensed

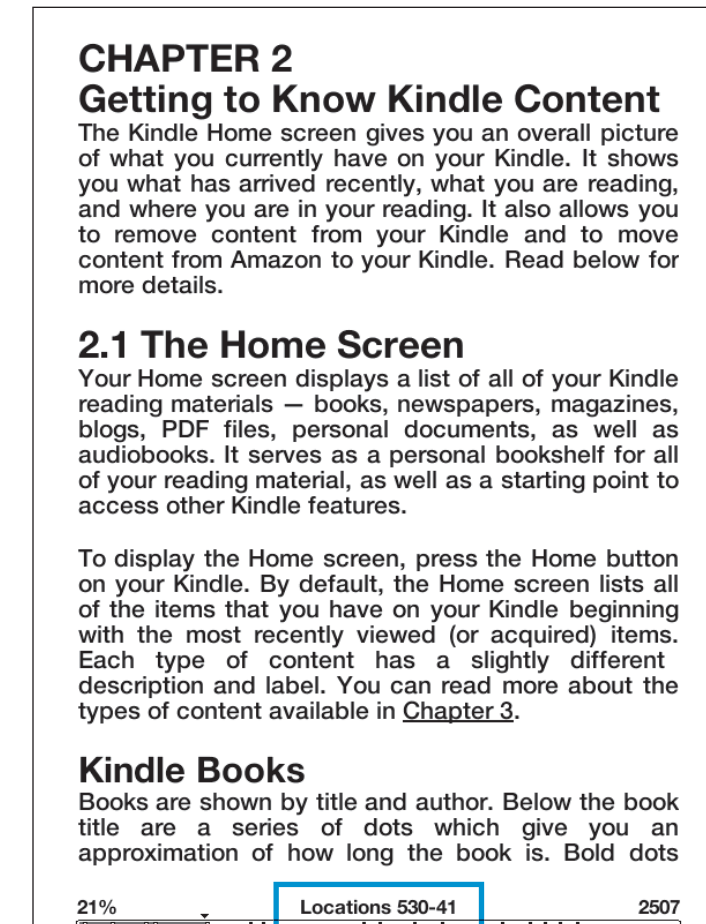


Because Caecilia condensed is narrower, the first line fits ten words per line. One would imagine more text would fit on the page, thus changing the amount of locations. Curiously, the same amount of text fits, and the locations remain the same.

Average characters per line: 53

Sans-serif

Helvetica Neue



Helvetica has a narrower set width than Caecilia regular, but not as narrow as Caecilia condensed. Curiously, the line height (leading) changes from 25 pixels used with both versions of Caecilia, to 22 pixels for Helvetica, thus fitting more text per page and changing the number of locations.

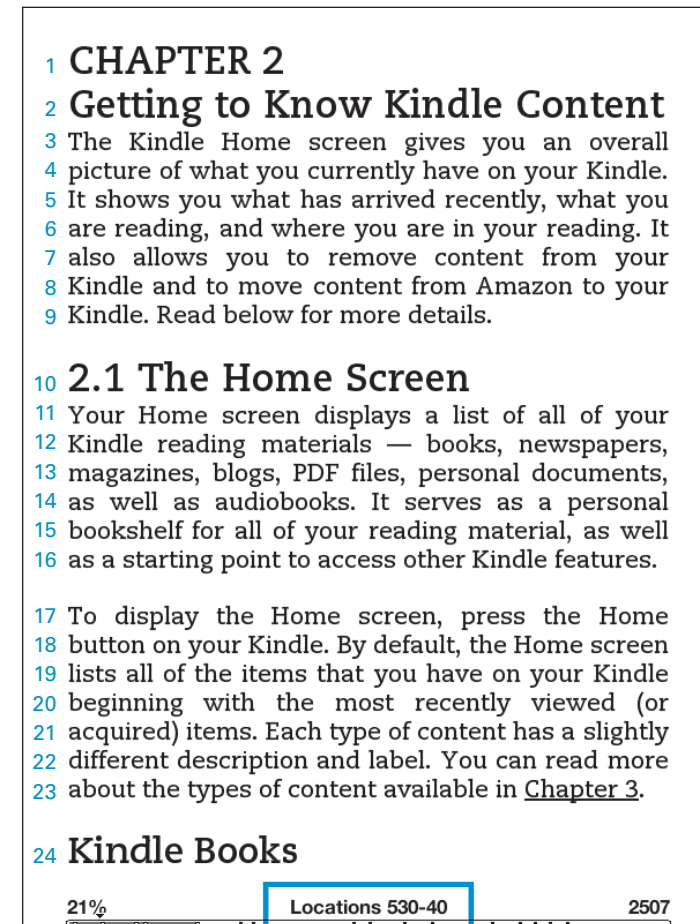
Average characters per line: 50

Line Spacing

Default Setting

Small

25 pixel line height for text

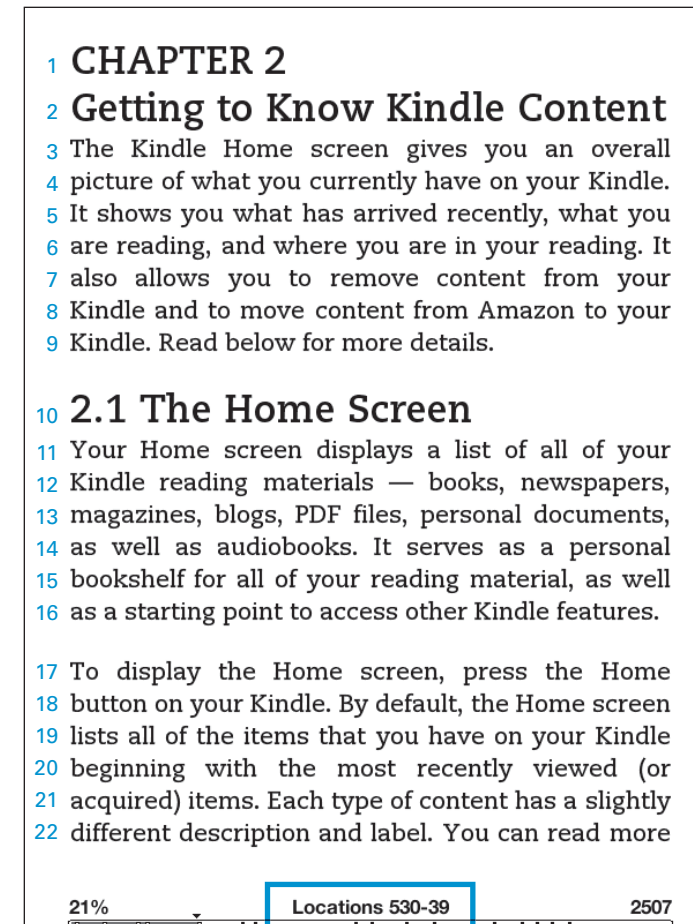


With the small setting,
there are 24 lines (11 locations) on this page.

There are 29 lines per screen when the whole page is displayed in
the primary body text size with no paragraph or section breaks.

Medium

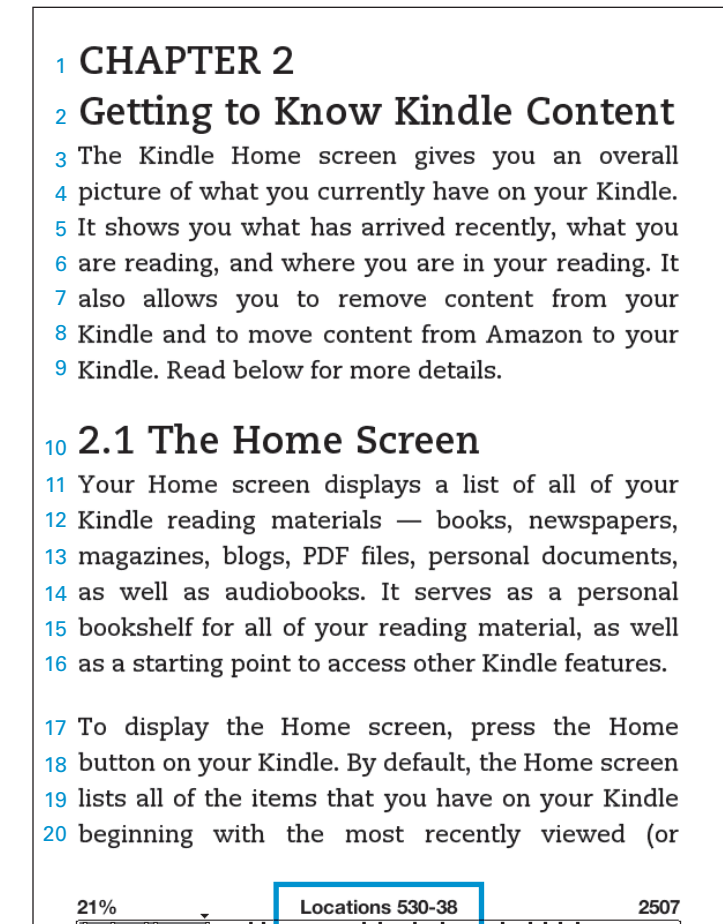
28 pixel line height for text



With the medium setting,
there are 22 lines (10 locations) on this page.

Large

31 pixel line height for text



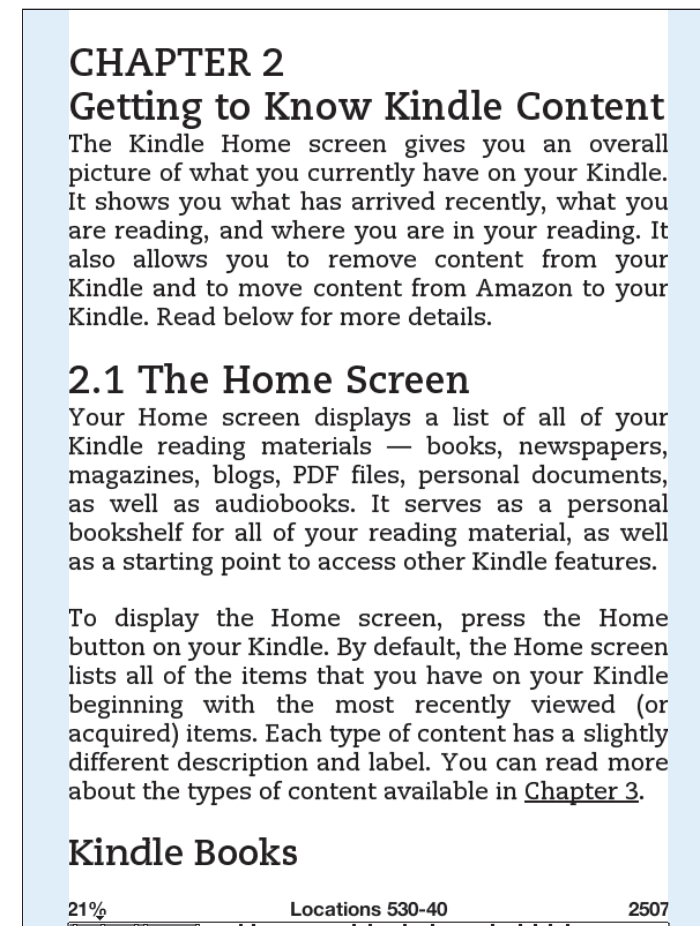
With the large setting,
there are 20 lines (9 locations) on this page.

Words Per Line [Margins]

Default Setting

Default

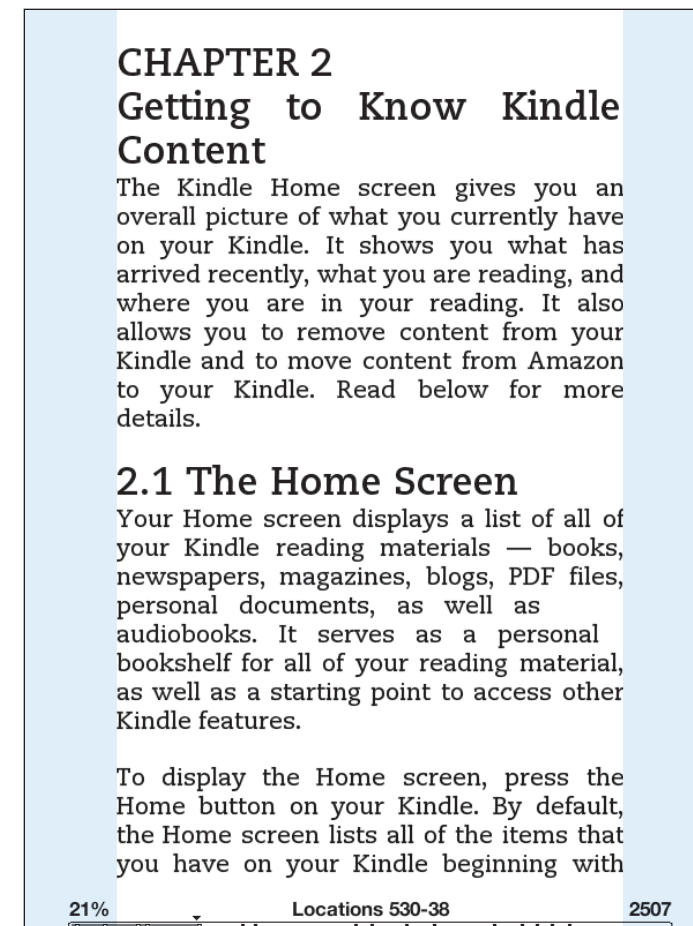
40 pixel margins



Set in Caecilia regular,
the first line fits eight words per line.

Fewer

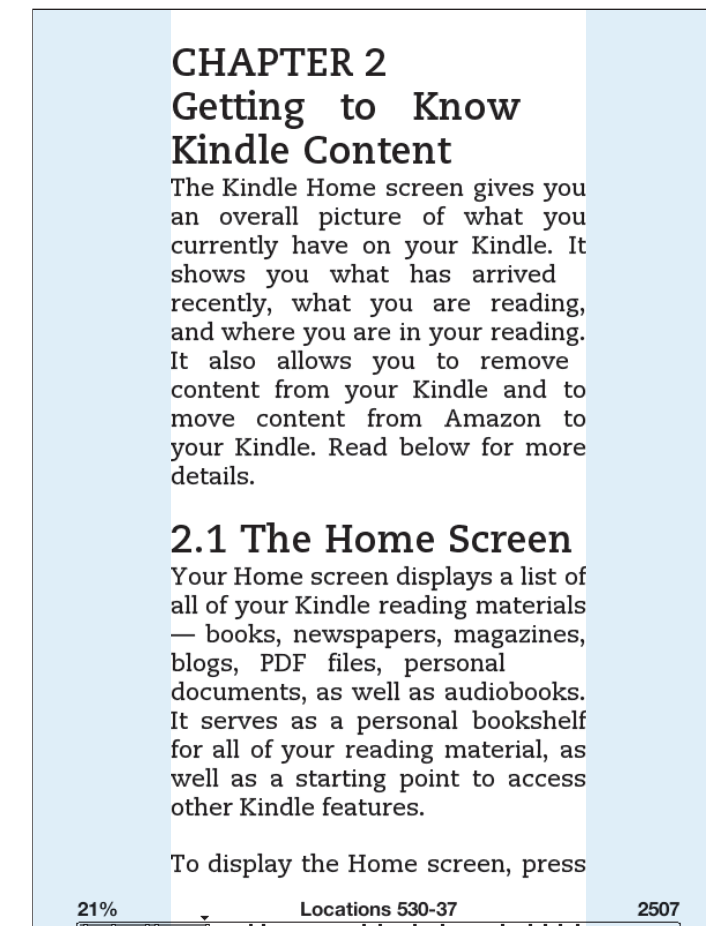
80 pixel margins



Set in Caecilia regular,
the first line fits seven words per line.

Fewest

120 pixel margins

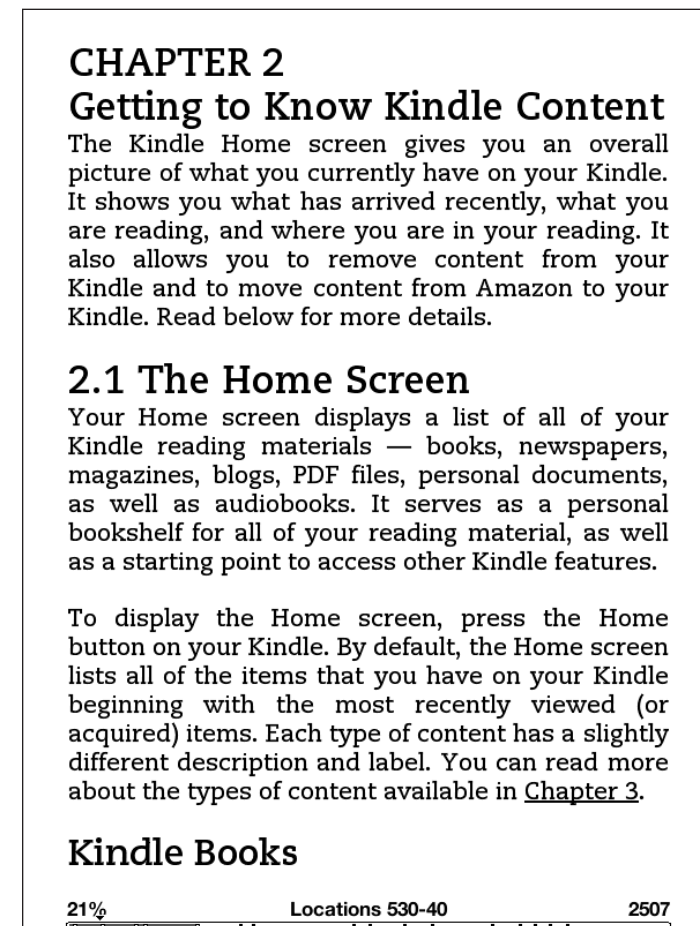


Set in Caecilia regular,
the first line fits six words per line.

Screen Rotation

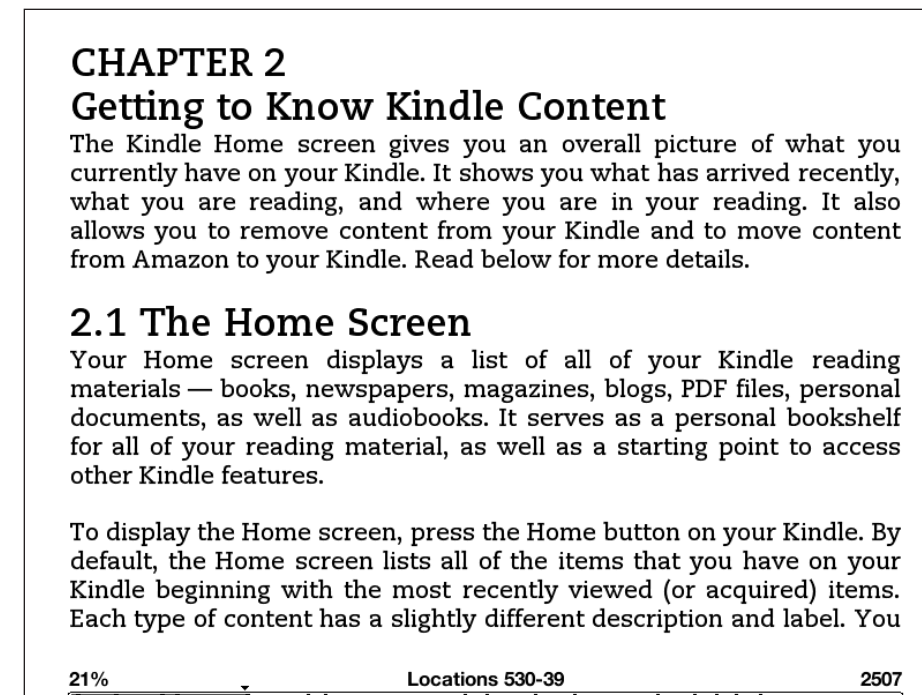
Default Setting

Portrait



The screen can be oriented so the keyboard is below or above.

Landscape



The screen can be oriented so the keyboard is on the right or left.

How Does Kindle Encode Documents?

E-book File Formats

There are a multitude of e-book file formats, the dominant one being ePub, which is based on XHTML and XML. ePub is not supported by Kindle.

MOBI, PRC, and AZW are all essentially the same file types with slight changes between them, typically how DRM is handled.



Electronic Publishing

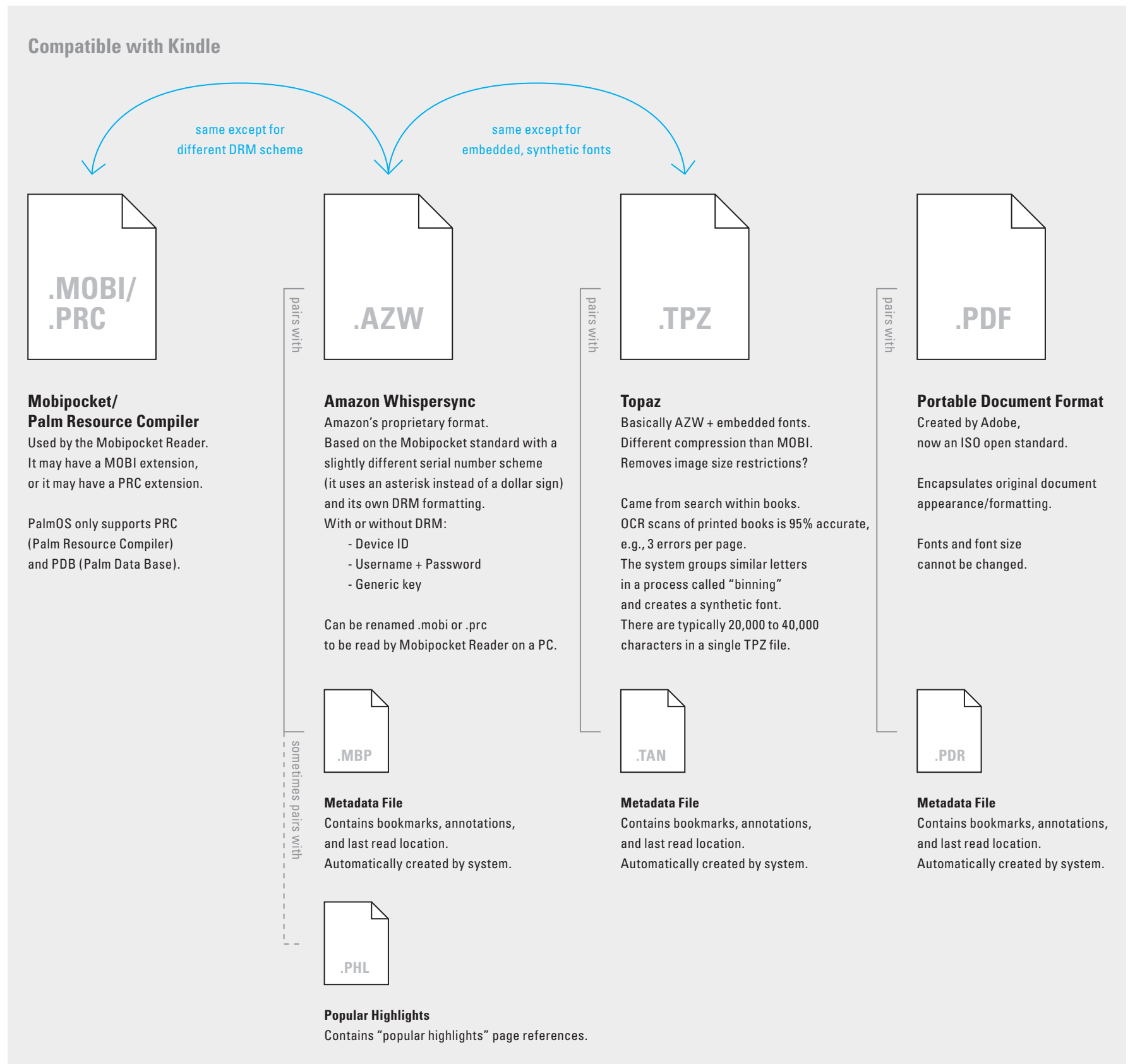
Popular open format defined by IDPF (International Digital Publishing Forum).

Composed of three open standards:

- OPS (Open Publication Structure)
- OPF (Open Packaging Format)
- OCF (Open Container Format)

Based on XHTML + XML with optional CSS. With or without DRM.

Not supported by Kindle.



Inside E-book Files

Here we show an e-book file opened within an HTML editor application alongside the same e-book file as rendered and displayed by the Kindle.

One can see where the image is specified at the top of the page, as well as the individual paragraphs of text.

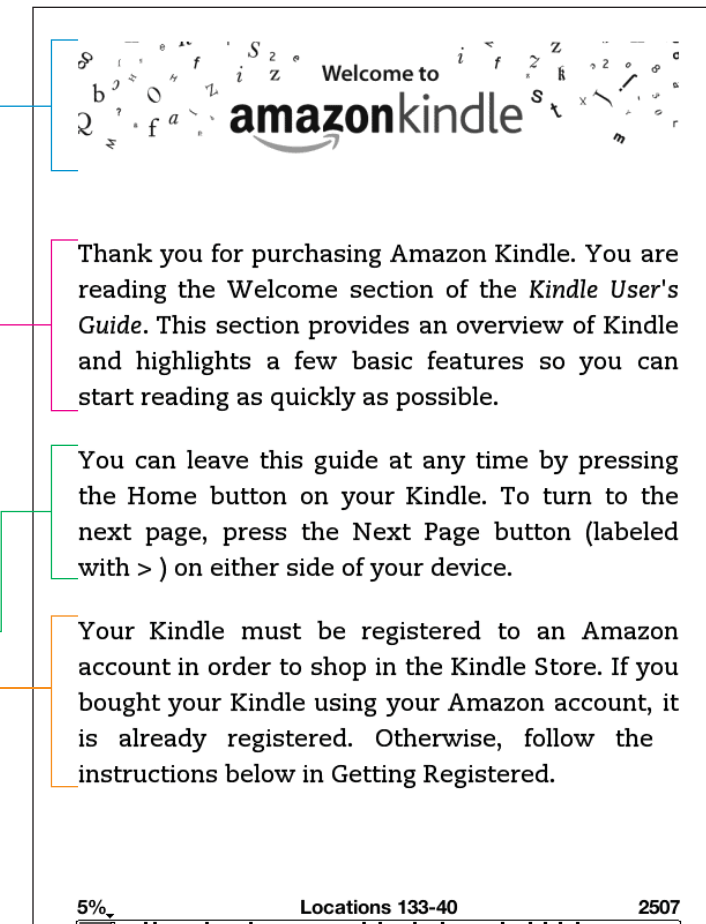
Mobi files are encrypted, so they cannot be opened by users – the result of opening a mobi file in a text editor would be a mess of code. If the file is un-encrypted, one will see HTML.

Mobi 7 is HTML 1
Mobi 8 is HTML 5

E-book File in Text Editor

```
<BR/>
<H4><A HREF="#app-b_product_specifications">Product Specifications</A></H4>
<P><A HREF="#app-b_amazon_us_kindle_license_agreement_terms">AMAZON.COM KINDLE LICENSE
AGREEMENT AND TERMS OF USE</A></P>
<P><A HREF="#app-b_us_digital_content">Digital Content</A></P>
<P><A HREF="#app-b_us_wireless_connectivity">Wireless Connectivity</A></P>
<P><A HREF="#app-b_us_device_software">Device and Software</A></P>
<P><A HREF="#app-b_us_general">General</A></P>
<P><A HREF="#app-b_amazon_uk_kindle_license_agreement_terms">AMAZON.CO.UK KINDLE
LICENSE AGREEMENT AND TERMS OF USE</A></P>
<P><A HREF="#app-b_uk_digital_content">Digital Content</A></P>
<P><A HREF="#app-b_uk_wireless_connectivity">Wireless Connectivity</A></P>
<P><A HREF="#app-b_uk_device_software">Device and Software</A></P>
<P><A HREF="#app-b_uk_general">General</A></P>
<BR/>
<H4><A HREF="#app-b_one_year_warranty">ONE-YEAR LIMITED WARRANTY</A></H4>
<P><A HREF="#app-b_warranty_add_info">Additional Information</A></P>
<BR/>
<H4><A HREF="#app-b_patent_notices">Patent Notices</A></H4>
<BR/>
<H4><A HREF="#app-b_copyright_trademark">Copyright and Trademark Notices</A></H4>
<mbp:pagebreak>
<span class=page-break></span>
<a name='amazon:srl' id='amazon:srl' class='srl'></a>
<P><center><A NAME="welcome"><IMG SRC="Welcome-1.gif" HISRC="Welcome-1.gif" |
ALIGN="ABSBOTTOM"></A></center></P>
<br>
<P>Thank you for purchasing Amazon Kindle. You are reading the Welcome section of the
<em>Kindle User's Guide</em> This section provides an overview of Kindle and
highlights a few basic features so you can start reading as quickly as possible. </P>
<P>You can leave this guide at any time by pressing the Home button on your Kindle. To
turn to the next page, press the Next Page button (labeled with <b> &gt;</b> ) on
either side of your device.</P>
<P>Your Kindle must be registered to an Amazon account in order to shop in the Kindle
Store. If you bought your kindle using your Amazon account, it is already registered.
Otherwise, follow the instructions below in Getting Registered.</P>
<mbp:pagebreak>
<span class=page-break></span>
<A NAME="congratulations"><H2 class="centered">Congratulations!</H2></A>
<P><center>You are reading on your new Kindle.</center></P>
<P>If you haven't done so already, please follow the <i>Getting Started</i>
instructions that came with your Kindle and plug your Kindle into a power source to
charge the battery. The charge indicator light on the bottom edge of your Kindle turns
yellow and a lightning bolt appears on the battery icon at the top of the display.
Charging the battery fully should take less than three hours and you can continue
reading while it charges.</P>
<P><IMG SRC="Welcome-2.gif" HISRC="Welcome-2.gif" ALIGN="ABSBOTTOM"> <i>Tip:</i> The
charge indicator light will turn green when the battery is fully charged.</P>
<P>If you prefer to read the <i>Kindle User's Guide</i> side-by-side with the
device, you can download and print a PDF copy at:</P>
<P>http://www.amazon.com/kindledocuments (U.S. and other countries)</P>
<P>http://www.amazon.co.uk/kindledocuments (U.K. customers)</P>
<P>You can also download the .AZW version of the <i>Kindle User's Guide</i> and
read it on any supported device (for example, Kindle for iPhone or Kindle for PC). For
a complete list of supported devices, visit the Kindle Store on the Amazon website.</
P>
<A NAME="getting_around"><H2>Getting Around</H2></A>
<P>You navigate Kindle using the 5-way controller; the Home, Menu, Back, and Next/
Previous Page buttons; and the keyboard: </P>
<P><center><IMG SRC="Welcome-3.gif" HISRC="Welcome-3.gif" ALIGN="ABSBOTTOM"> </
center></P>
<P>To select a particular item such as a menu option or a specific word in your
reading material, press the up, down, left, or right button on the 5-way controller
```

E-book File in Kindle



Thank you for purchasing Amazon Kindle. You are reading the Welcome section of the *Kindle User's Guide*. This section provides an overview of Kindle and highlights a few basic features so you can start reading as quickly as possible.

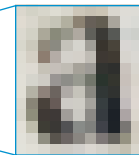
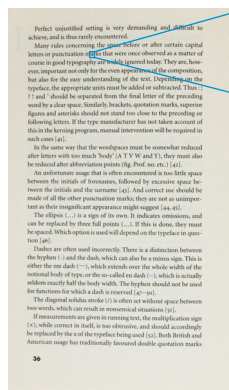
You can leave this guide at any time by pressing the Home button on your Kindle. To turn to the next page, press the Next Page button (labeled with >) on either side of your device.

Your Kindle must be registered to an Amazon account in order to shop in the Kindle Store. If you bought your Kindle using your Amazon account, it is already registered. Otherwise, follow the instructions below in Getting Registered.

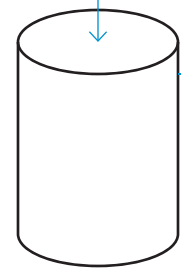
How Does Kindle Encode Documents?

Topaz

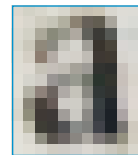
Document is scanned.



Topaz creates an individual image of each glyph in the document.

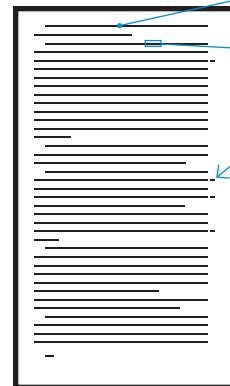


Glyph images are stored in a database.



Glyph images are run through optical character recognition software.

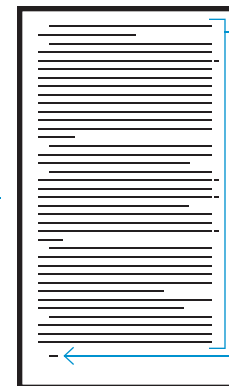
OCR results analyzed



Topaz recognizes both characters and words, and includes a de-hyphenation feature.

Characters
Words
Hyphens

Layout is analyzed



Topaz recognizes "flows", allowing it to parse the primary text, page numbers, headers, footers, tables, sidebars, TOCs, etc.

Primary text

Sorted "flows" sent to editor application

Page number



The Topaz editor allows an author to check and edit the automatically generated flows before publishing the document.

99.5% of glyph images are recognized by the OCR software.



"a"

For all recognized "a"s, Topaz finds the best example and makes an outline from this glyph image.

A single Bézier curve outline for each glyph is placed into a table to create a synthetic font.

	0	1	2	3	4	5	6	7
0			0	@	P	`	p	
1			1	A	Q	a	q	
2			2	B	R	b	r	
3			3	C	S	c	s	
4			4	D	T	d	t	
5			5	E	U	e	u	
6			6	F	V	f	v	
7			7	G	W	g	w	
8			8	H	X	h	x	
9			9	I	Y	i	y	
A	*	:	J	Z	j	z		
B	+	;	K	[k	[
C	,	<	L	\	l			
D	-	=	M]	m]		
E	.	>	N	^	n	-		
F	/	? :	O	_	o			

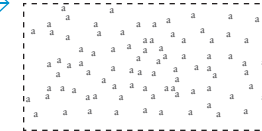
The glyph table contains a single instance of each recognized glyph and a bin of unrecognized glyphs that each occur only once.

0.5% of glyph images are unrecognizable by the OCR software.

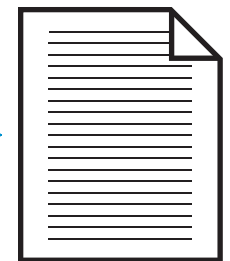


"?"

A unique Bézier curve outline is created for all unrecognized glyphs.



Synthetic font combined with text and text flows.



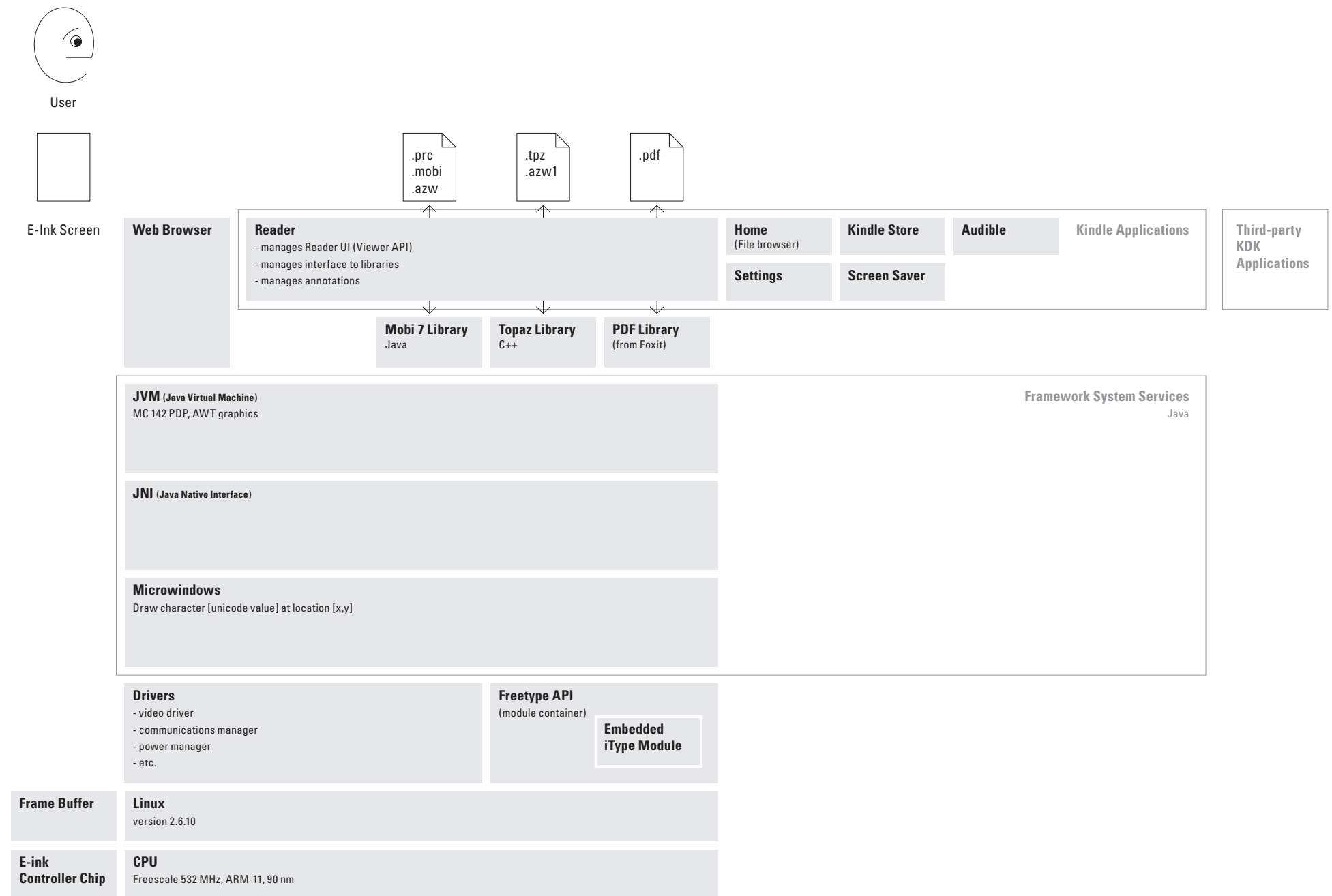
Output e-book document with searchable text, which maintains the font style of the original but can be re-flowed for better use in e-book readers.

How Does Kindle Render Documents?

How Does Kindle Render Documents?

Second Generation Rendering Stack

As implemented for 3G.



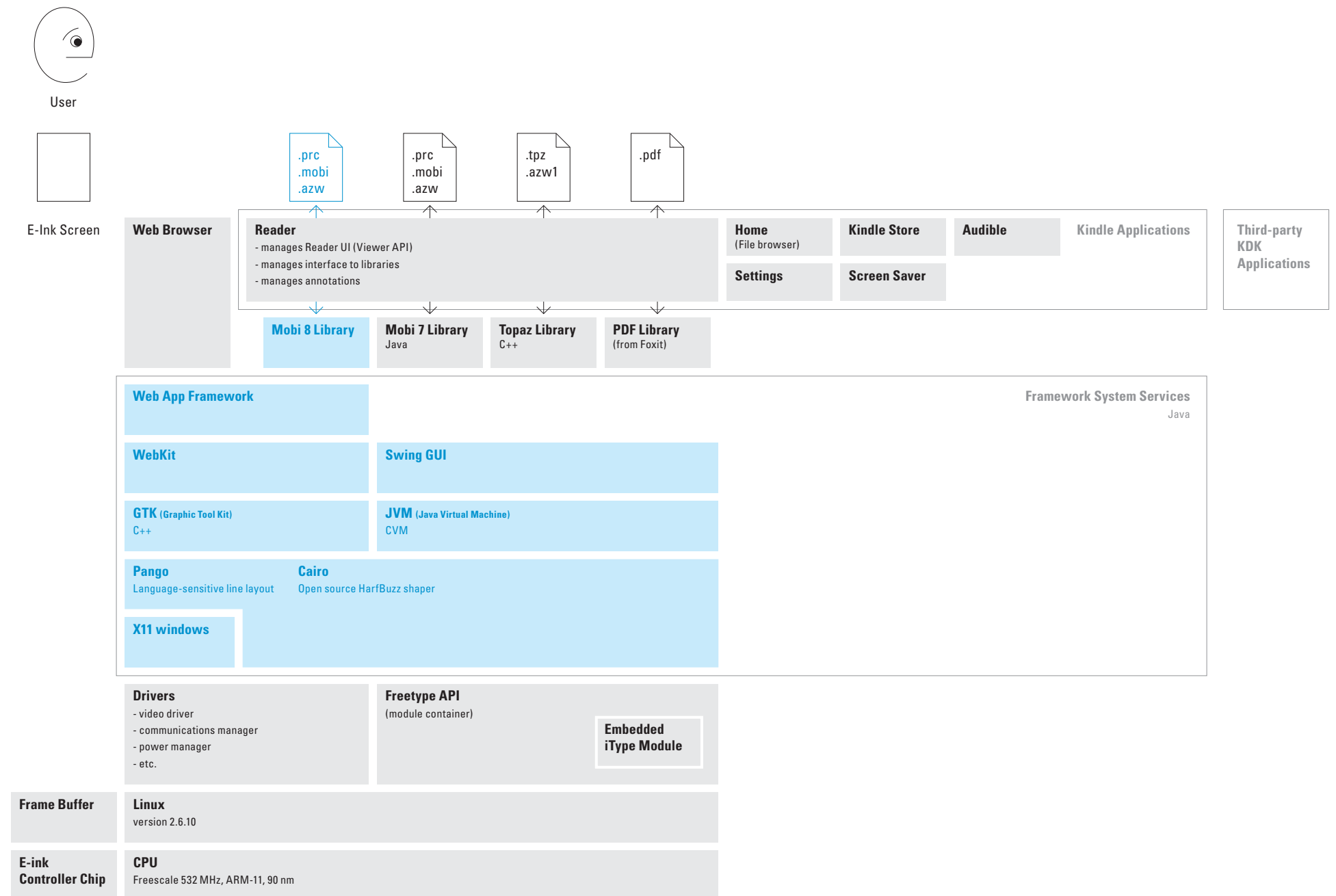
How Does Kindle Render Documents?

Third Generation Rendering Stack

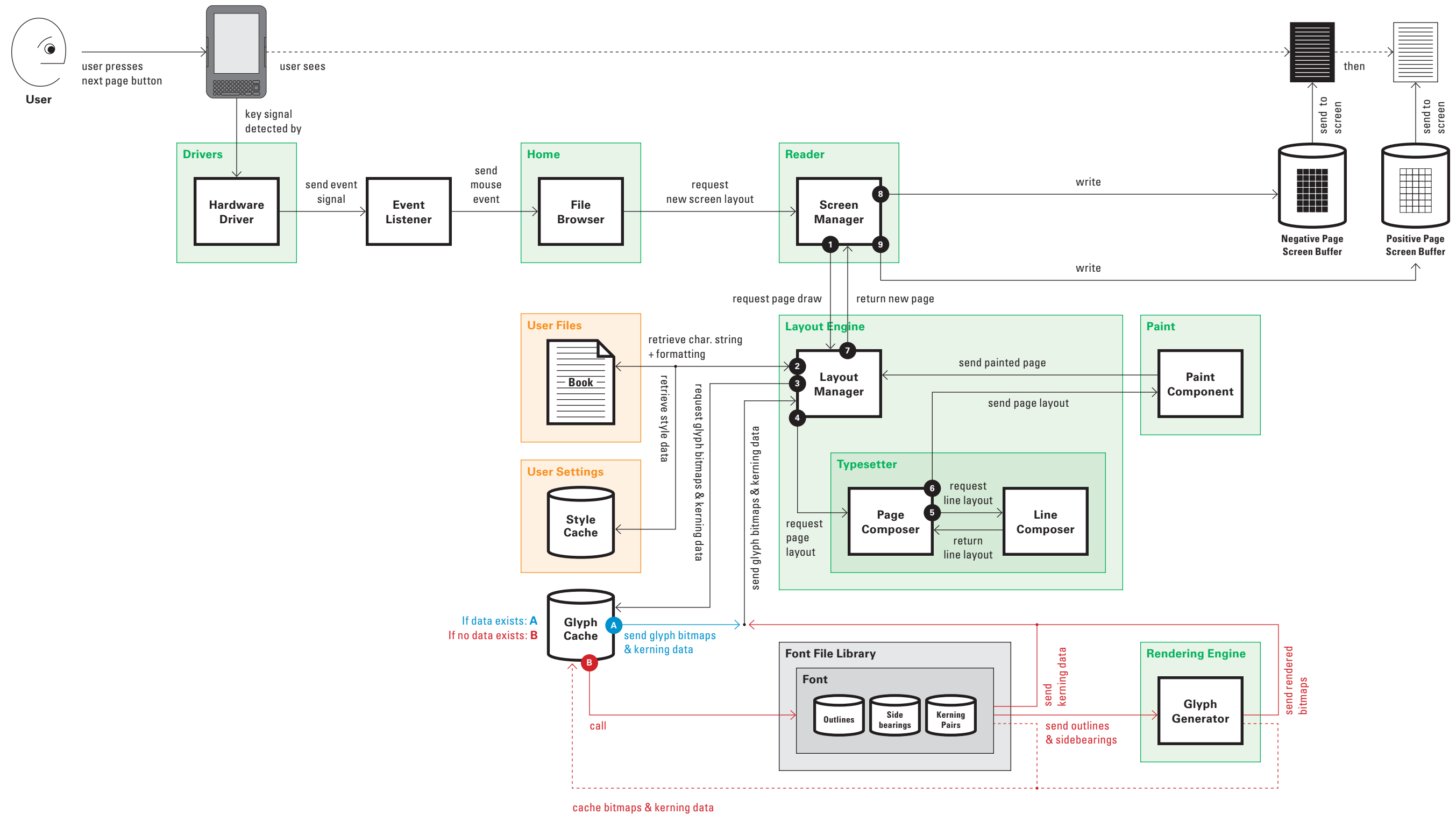
As implemented for 4G.

Changes from third generation are shown in blue.

Fourth generation stack currently in development.



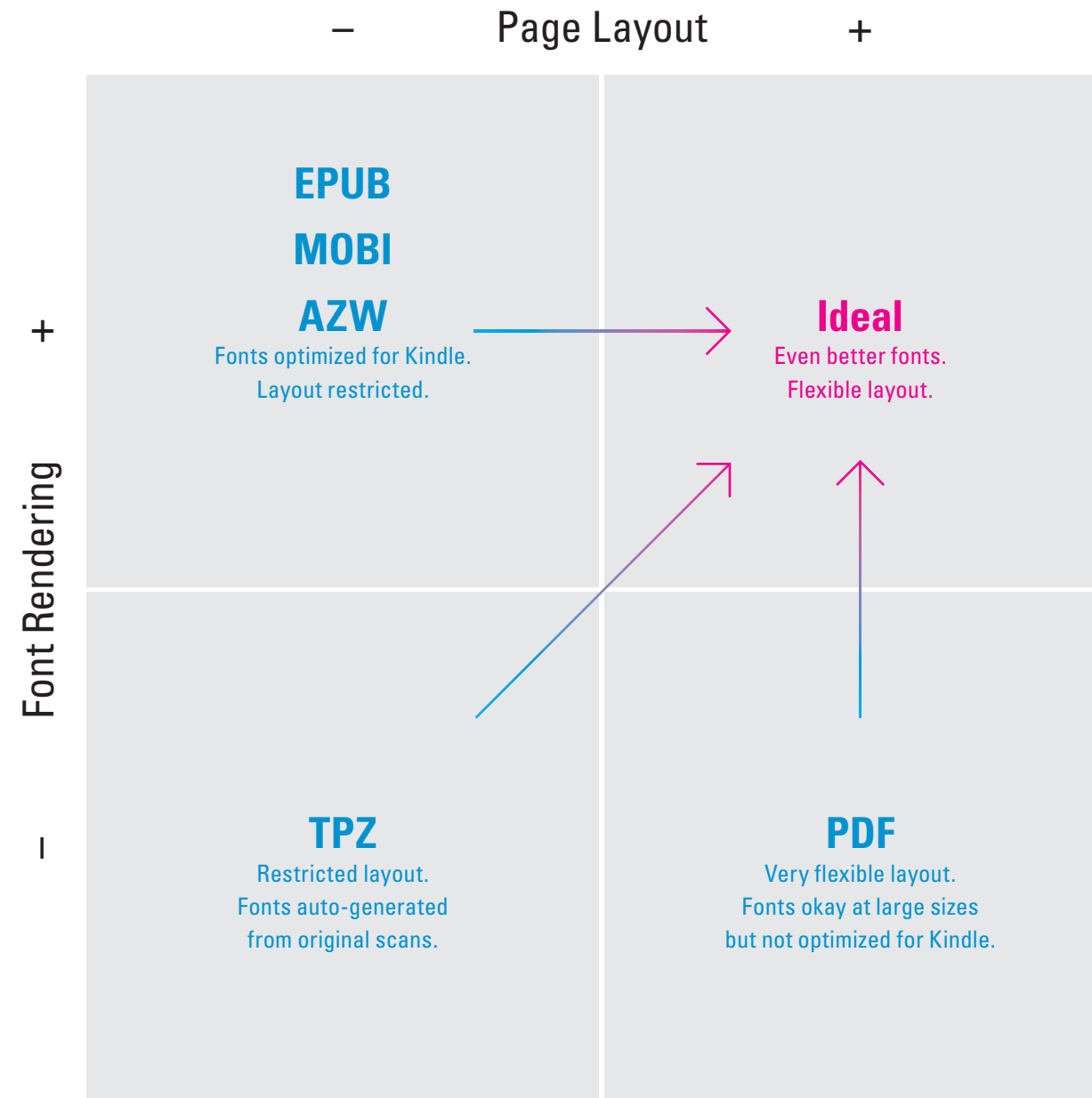
Kindle Page Display Process (for AZW files)



Font Rendering + Page Layout Matrix

As noted in *Understanding Typography*, the two aspects of quality typography are font rendering (individual letters) and page layout (how those letters are combined to create a page).

We've taken these two aspects and created a two-by-two matrix and plotted the existing file formats. All formats have both strengths and weaknesses in either dimension. The ideal format should have greater strengths in both font rendering and page layout.



Locations

According to the Kindle User's Guide:

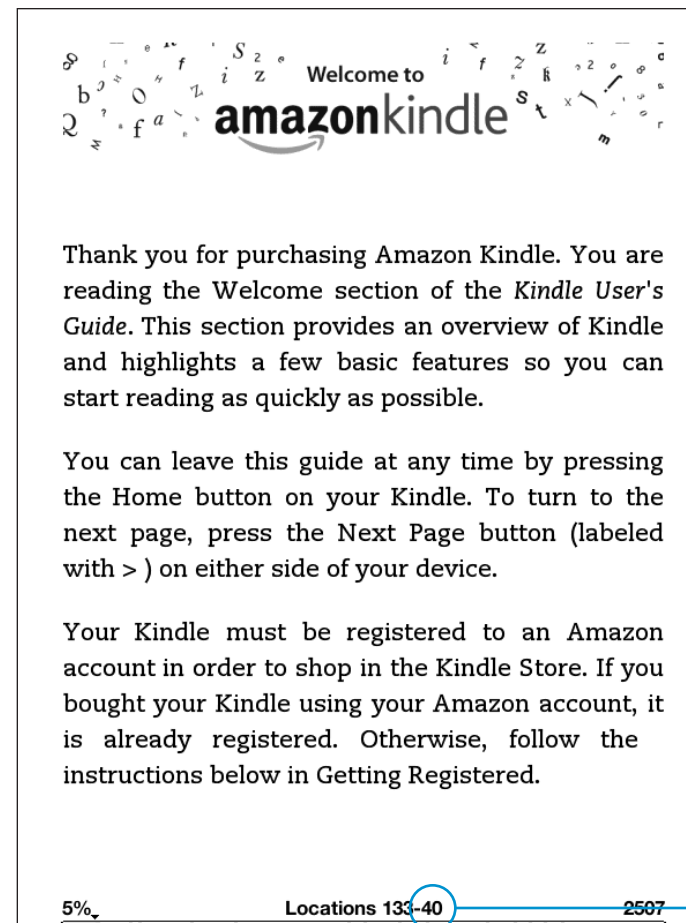
"Locations are the digital answer to page numbers. Changing the text size on Kindle also changes the page numbering, but with locations, you return to the same place every time regardless of the text size."

Position equals byte offset in a string of text.

Location equals position divided by 150.

Technically, there are 150 bytes of information per location.

This page has a total of eight locations.

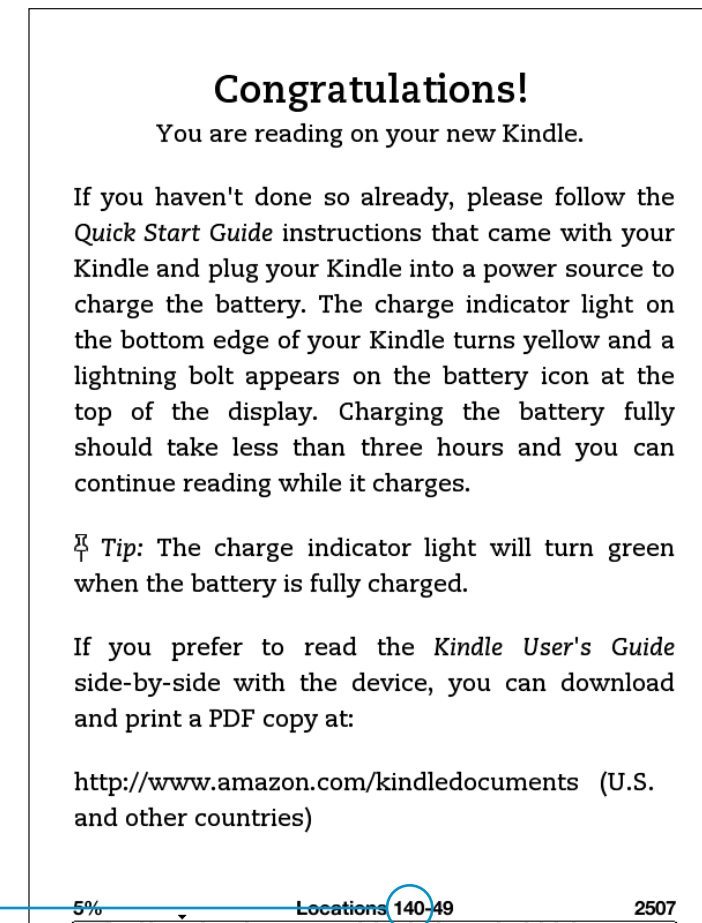


Thank you for purchasing Amazon Kindle. You are reading the Welcome section of the *Kindle User's Guide*. This section provides an overview of Kindle and highlights a few basic features so you can start reading as quickly as possible.

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This page has a total of ten locations.



Congratulations!

You are reading on your new Kindle.

If you haven't done so already, please follow the *Quick Start Guide* instructions that came with your Kindle and plug your Kindle into a power source to charge the battery. The charge indicator light on the bottom edge of your Kindle turns yellow and a lightning bolt appears on the battery icon at the top of the display. Charging the battery fully should take less than three hours and you can continue reading while it charges.

Tip: The charge indicator light will turn green when the battery is fully charged.

If you prefer to read the *Kindle User's Guide* side-by-side with the device, you can download and print a PDF copy at:

<http://www.amazon.com/kindledocuments> (U.S. and other countries)

The last location is carried over to the next page.

Page Numbers

Kindle e-books now provide page numbers in addition to locations.

“Our customers have told us they want real page numbers that match the page numbers in print books so they can easily reference and cite passages, and read alongside others in a book club or class.”

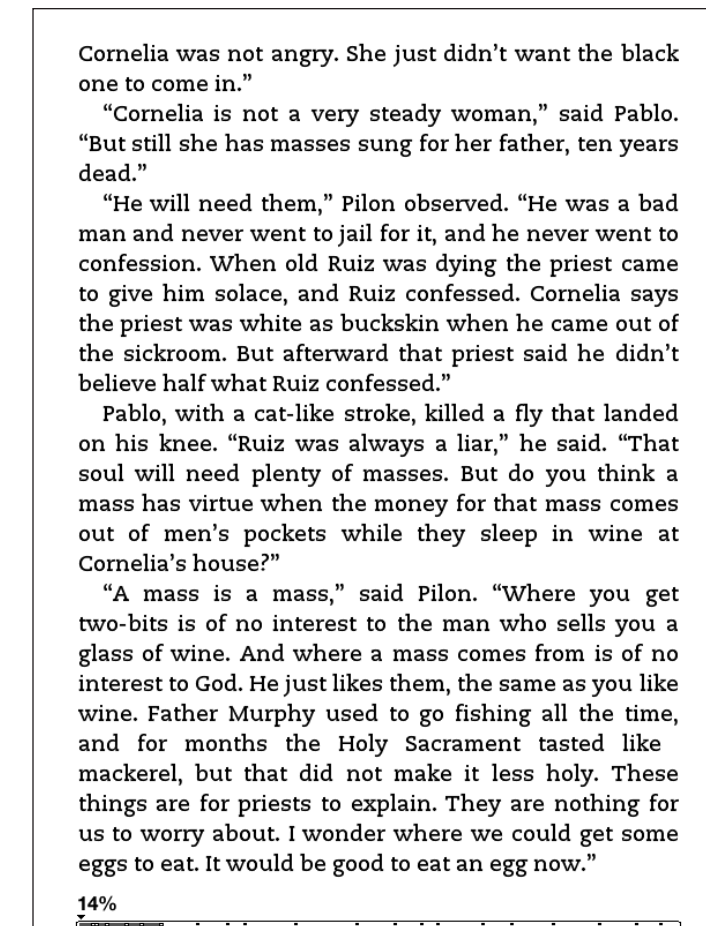
Page numbers correspond to a particular edition of the print version – information regarding the particular edition referenced can be found in the book’s front matter.

Newer books have both page numbers and locations



Readers are now given both page numbers (that refer to a specific print edition) and locations as ways to keep track of their place in a book.

Page numbers and locations are not always displayed



When a user is reading an e-book, only the percentage complete is displayed.

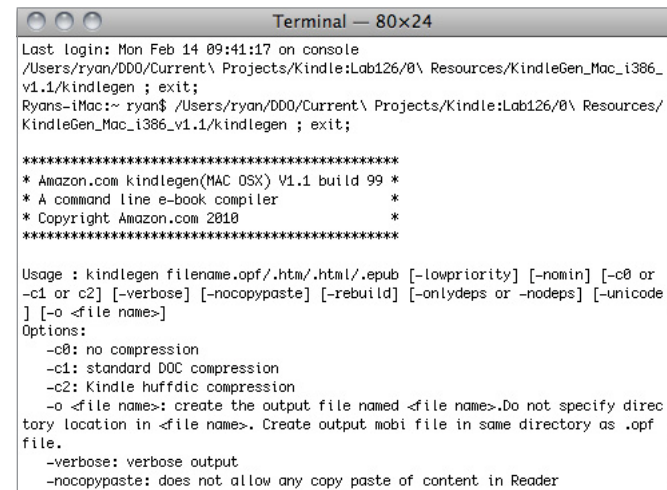
How Do You Publish a Kindle Book?

Publishing Tools

Kindle provides several tools, free on the Amazon website, to aid publishers in creating Kindle readable e-books. However, the current tools are difficult to use and require expert knowledge of either the command line or Adobe InDesign. The tools consist of:

- KindleGen: A command line tool for converting existing HTML, XHTML, XML, or ePub source files into Kindle's AZW file format
- An Adobe InDesign plug-in that can be used to output InDesign documents in the Kindle AZW format
- Kindle Previewer: An emulator for previewing how books will display on Kindle devices and applications

Publishing for Kindle is incredibly difficult. For example, the need for additional files such as NCX is not clear, nor is the syntax for navigating that works with the Go to ... options.

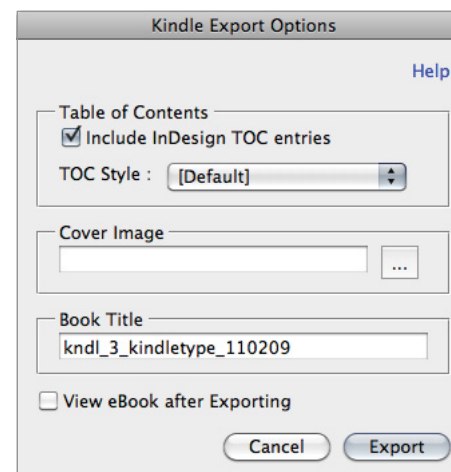


```
Terminal — 80x24
Last login: Mon Feb 14 09:41:17 on console
/Users/ryan/DD0/Current\ Projects/Kindle:Lab126/0\ Resources/KindleGen_Mac_i386_
v1.1/kindlegen ; exit;
Ryans-iMac:~ ryan$ /Users/ryan/DD0/Current\ Projects/Kindle:Lab126/0\ Resources/
KindleGen_Mac_i386_v1.1/kindlegen ; exit;

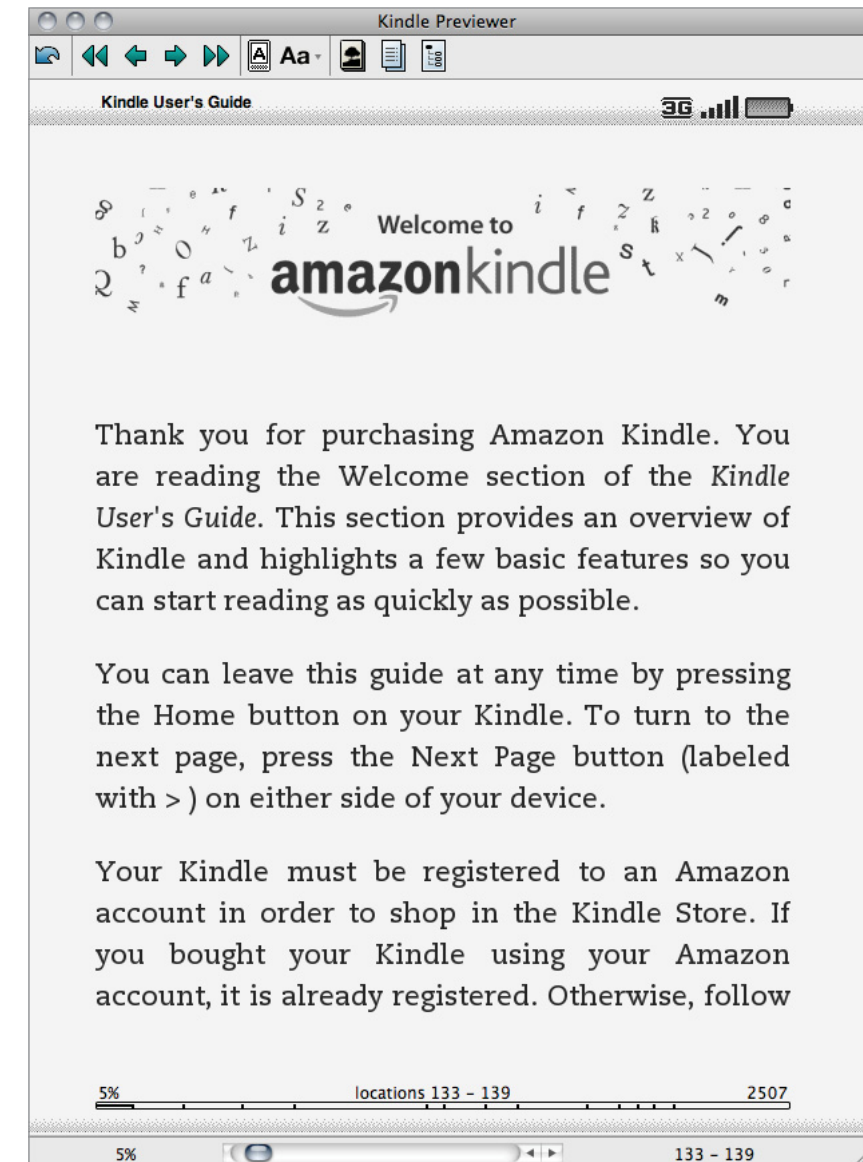
*****
* Amazon.com kindlegen(MAC OSX) V1.1 build 99 *
* A command line e-book compiler                *
* Copyright Amazon.com 2010                    *
*****

Usage : kindlegen filename.opf/.htm/.html/.epub [-lowpriority] [--nomin] [-c0 or
-c1 or c2] [-verbose] [--nocopypaste] [--rebuild] [--onlydeps or --nodeps] [--unicode
] [-o <file name>]
Options:
-c0: no compression
-c1: standard DOC compression
-c2: Kindle huffdic compression
-o <file name>: create the output file named <file name>. Do not specify direc
tory location in <file name>. Create output mobi file in same directory as .opf
file.
-verbose: verbose output
-nocopypaste: does not allow any copy paste of content in Reader
```

KindleGen



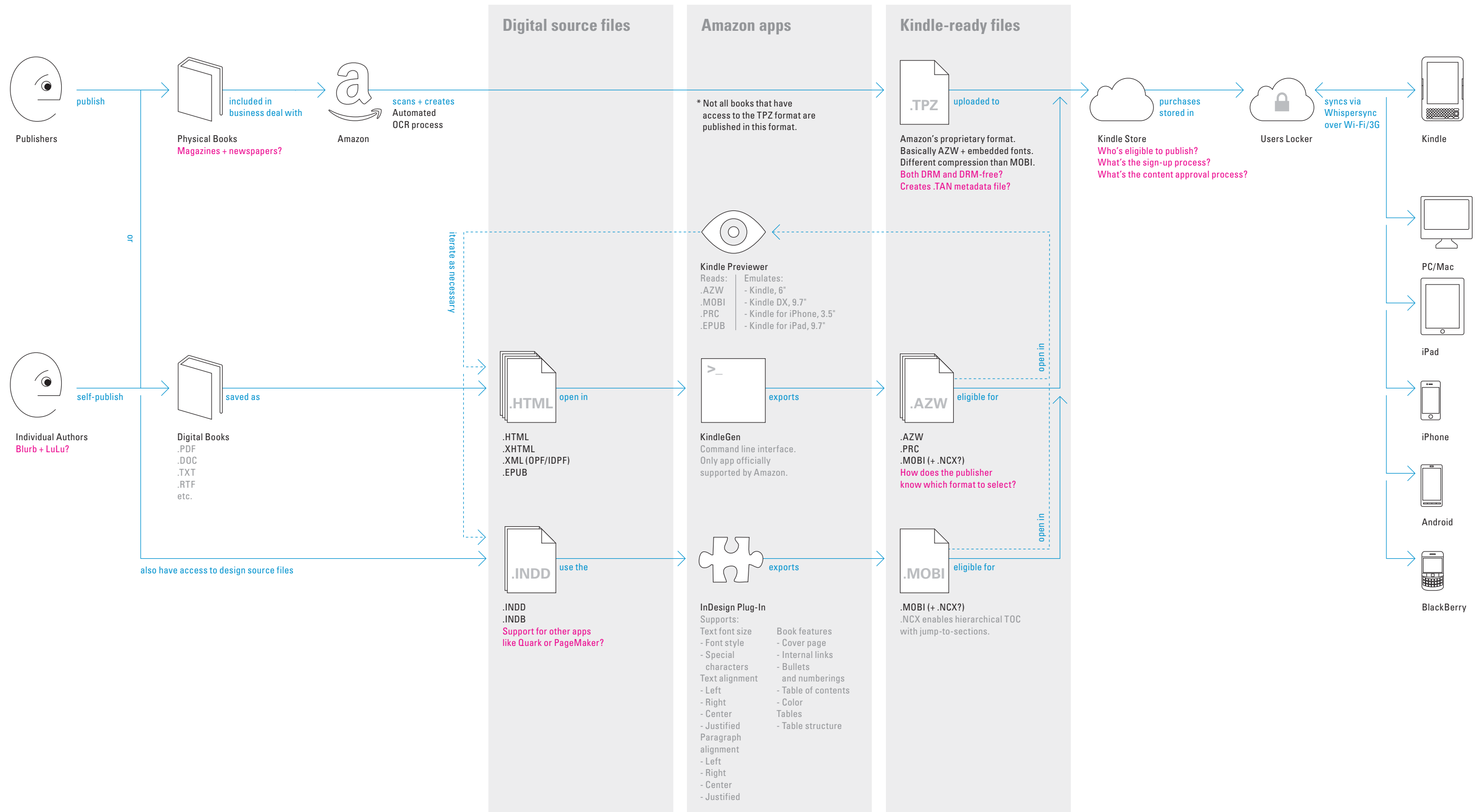
Kindle Plugin for Adobe InDesign



Kindle Previewer

How Do You Publish a Kindle Book?

Kindle Publishing Program (for English book/textbook publishers in the U.S.)



How Do You Publish a Kindle Book?

Kindle Direct Publishing

Kindle Direct Publishing is a platform for self-publishing. The service allows authors to upload e-books, and to sell them on Amazon.com. There are also extensive guidelines for how to create an e-book, recommendations for what to include (e.g. front matter, contents page, etc.), and what kinds of content are appropriate.

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4000 characters left

Book contributors: [\(What's this?\)](#)
[Add contributors](#)

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Select language

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Contributors are the people involved in creating your book. You can identify your book's author, editor, illustrator, translator, and more. To publish your book, you must identify at least one contributor. Enter contributor names in the order in which you want them to appear in the Kindle store.

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Glossary

Technical terms gathered from our research.
Included here for quick reference.

Glossary

ACT

A form of compression.

Cairo

A 2D drawing library.

CATT

Compact Asian Technology for TrueType, a Monotype proprietary font format.

CCC

A form of compression.

CFF

Compact Font Format, a.k.a. Postscript Type 2.

CJK

Chinese, Japanese, Korean.

CSM

Continuous Stroke Modulation, a Monotype proprietary technology for adjusting font contrast and sharpness. This is something like applying the gamut curve function in Photoshop to a rendered font image (assumes gray scale).

DRM

Digital Rights Management, typically refers to software for limiting distribution.

DTP

Digital Text Platform, a service for users to self-publish books for sale in the Kindle Store.

Edge tuning

Allows for altering the density of any pixel to be sharper or softer, thicker or thinner. Fonts are tuned before being shipped with a device.

FreeType

Open source font renderer.

iType

Monotype proprietary font renderer, can be embedded in FreeType.

iType connect

“Glue” that connects iType to other environments.

Linked font or font linking

Replaces single large font resource with multiple linked files, implies reduced duplication; see also dynamic linking.

MTI

Monotype Imaging font format.

Open VG

A 2D vector graphics format.

Pango

Open source text rendering and layout engine.

PFR

Portable Font Resource.

Stroked font

Object-oriented format for describing characters as strokes, contrasted with outlined fonts.

Topaz (.tpz)

Amazon’s proprietary file format. This format results from the OCR scanning of physical, published books. This process is performed by Amazon.

T1

Type 1, an old Postscript font format.

TT

TrueType

TTC

TrueType Collection

Whispersync

A service which syncs reading progress, bookmarks, and highlighting across Kindle hardware devices and other mobile devices.