

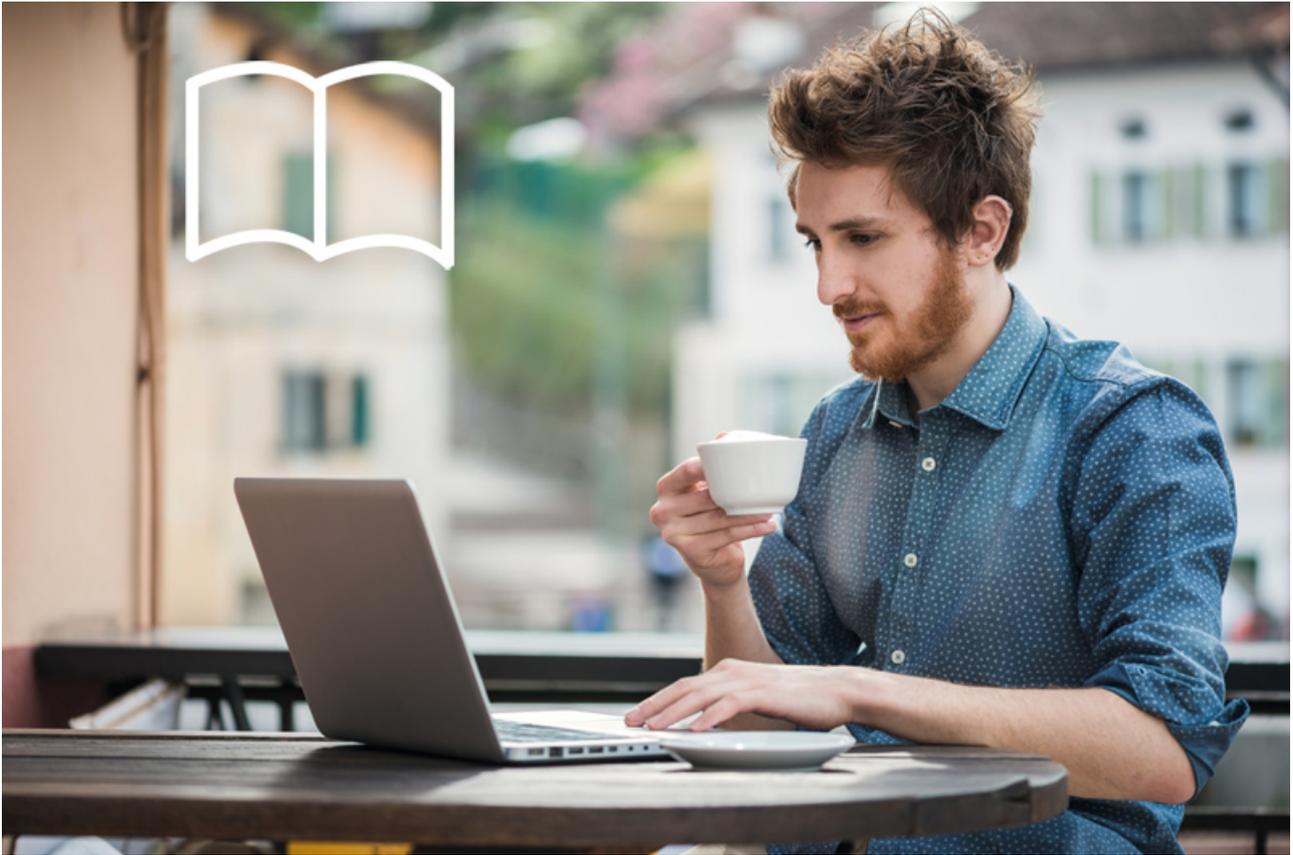
**YOUR
ULTIMATE
GUIDE**



TO CREATING

Interactive Ebooks!

How to Create an Interactive Ebook: A Step-by-step Guide



Ebooks are the current expanding trend in education and publishing. Add interactivity on top of that, and you've got yourself a top-notch product that won't be going away anytime soon; one that is sure to put you ahead of the game. This comprehensive guide will lead you on the journey to learn how to create an interactive ebook, as well as publish the ebook to different platforms. We will start together from defining what you want to create, to choosing your preferred online and offline tool, with the occasional suggestions and warnings.

Learning how to create an interactive ebook is simple, but let us start first by defining the concept of "interactive ebooks". Clearly this term has been over used in past years by publishers who think that inserting a moving picture in their ebook would deem it "interactive". Well, they are not at fault here but it just sounds quite silly given that they didn't even scratch the tip of the interactive iceberg. With current technologies like HTML5 and EPUB 3.0 you can go way beyond a digital moving picture – provide experiences rich with videos, audio and even touch-based games if you like. All inside the same ebook. And that's how we would rather define interactivity.

This guide is divided into 8 chapters as follows:

- 1) Step-by-step Guide to Ebook Creation**
- 2) Best Ebook Layout Format: Reflowable or Fixed?**
- 3) Book Widgets: Everything you need to know**
- 4) EPUB vs PDF: The Battle of the Formats**
- 5) Converting your PDF to a Truly Interactive Ebook**
- 6) Adding Google Fonts to your Ebook**
- 7) How to Edit EPUB Books Manually**
- 8) Ebook DRM & Security: What is it and How it Works**



So want to learn how to create an interactive ebook? Let's jump right in then!

1) Setting your target

Defining the Platform

As a company in the ebook creator business, we receive many requests from customers wanting to create interactive ebooks. They have a clear plan of their ebook, and most times the content is ready. However, when we ask what platform/devices they are targeting for publishing, all that can be heard is the chirping of crickets. Wanting an ebook is not enough. Since your ebook will be targeting a certain audience, it's important to know how to reach them. The end-product should be clear and well-defined. Here are some options for defining the platform/device to put in consideration.

- As a web app on your personal website. Your readers will simply visit a certain URL in their web browser to start reading
- Mobile app, to publish on the respective app stores. The ebook will have its own dedicated icon and name, in the app menu
- Desktop app, to distribute by email or on hard media. The ebook will run independently without requiring a certain reader software
- A component to publish on your school or university's LMS (learning management system). Interactive ebooks are a serious added value when it comes to education
- An EPUB file to give away independently, or publish to popular ebook stores (Apple iBooks, Amazon Kindle, B&N Nook, etc.)

Updates

Since most people are aware that usually no content is final or absolute. You may decide to make edits after publishing. You need to understand how updates are reflected on the platform you chose. For instance, if you publish your ebook on your personal website, updating that ebook is a straight forward approach. Unlike if you have chosen to publish on mobile or LMS.

Paid or Free

It's not a must, but deciding early on whether your ebook will be available for free or through purchasing will give you different ideas for promoting and marketing your ebook.

Why is this essential?

If you think this will affect the ebook in terms of quality, you're wrong – you should always aim for a higher quality nonetheless. Free ebooks get the highest downloads on any ebook store. As for sales, a credible study done by Smashwords showed that ebook prices falling within the range of \$.299 to \$3.99 get the highest sales. Sounds like peanuts? Never compare prices of ebooks with printed books. There is no overhead when it comes to publishing ebooks – they can be reproduced infinitely. If the purpose of your ebook is to promote an idea, it may be better to offer it for free, otherwise choose a reasonable price. A popular marketing strategy when it comes to selling ebooks is to publish a free excerpt of one of your chapters. This is something to have in mind in the early stages.

Marketing budgets and resources

Your ebook will not be sold off shelves in dozens (metaphorically speaking) as soon as you publish it. Without a good marketing budget paired with patience and effort, chances are people will not get to read it. You can't sell your ebook if no one knows it exists. Unfortunately, there isn't a recipe for successful ebook marketing. You need to create awareness however and whenever you can.

Reader Interface Branding

If you decide to publish your ebook on platform with a ready built reader, like iBooks or Kindle, you won't be able to change anything in the reader's interface. But, if you choose to publish the ebook in the form of a mobile app, web app or desktop app then you'll have full access to even build your reader from the ground up if you deem fit.

Why care about a Reader interface?

The upside of going through the trouble of creating your own reader within your platform of choice is the ability to brand it and theme it for your audience. This would be perfect for companies that have their trademark that need to be in tune with the look and feel of the interface. On the other hand, if you are creating an ebook for the mass public without strictly sticking to a target audience, then accepting an external reader is okay for you.

2) Preparing interactive ebook content and material



There are a number of gotchas to watch out for here. The majority of ebook users rely on mobile devices, so you must optimize content for that. It's simple to just convert your ready-made PDF into an ebook, but is that the best option there is? Let's take a close look at the two ebook layouts: fixed layout and reflowable layout.

Fixed Layout

Simply speaking, this means that every aspect of your layout will remain the same no matter which device it's viewed on. Think of websites that are not optimized for mobile viewing (a rare currency these days), do you see how they extend beyond the boundaries of the screen and you have to either zoom out to see the whole thing or scroll vertically and horizontally, yes? Well, that is basically how a fixed layout in ebooks would behave, it will not optimize the content based on the viewing device.

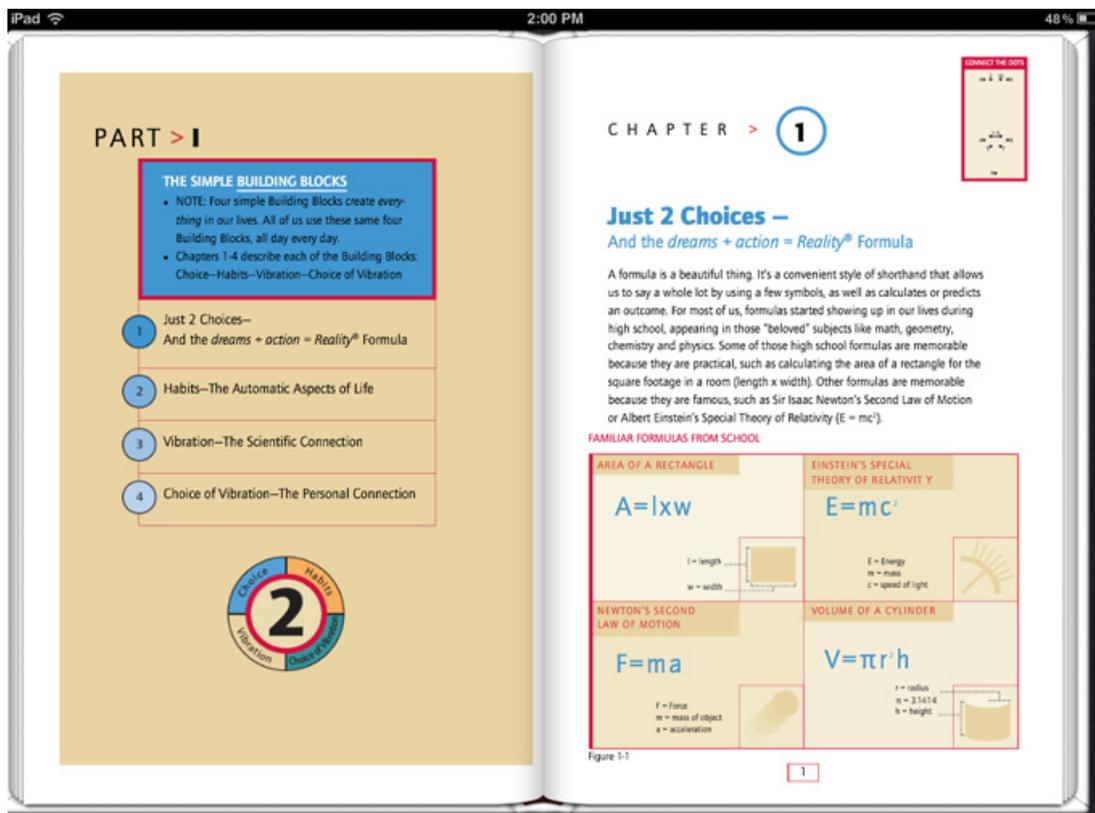


When to choose the fixed layout?

And although this may sound like an outdated technology, it's actually more practical for desktop usage or even some LMSs that deny mobile access. Also it would produce more accurate results if you're creating magazines, comics, or storybooks.

Reflowable Layout

The second type of layout optimizes the content for the viewing screen's dimensions. It makes a strong distinction between content and design allowing content freedom with text-wrapping and rescaling.



When to choose reflowable layout?

This is the more popular form of layouts and for a reason of course, that is viewing versatility. It's preferable to use this at all times

unless of course it's crucial to preserve the layout.

Ebook Assets

Once you choose your layout. Have your media content ready: images, MP4 video, MP3 audio, widgets, etc. Optimize images as much as you can, since many ebook publishing platforms have limitations with media. Apple iBooks Store for instance does not accept images greater than 5MB in size, or 4 megapixels in area. If your ebook is an online app (relying on internet bandwidth), large sized images taken straight from a digital camera without optimizing, can really lag down performance and cost you visitors. In the next section we'll take a closer look at some helpful sites that can make this task a breeze.

3) Online services and websites to prepare your interactive ebook (content resources and more)

There are services that can do a lot of the manual work for you for a fee. They can handle the heavy work such as scanning a hardcopy book, designing your ebook cover, formatting your document for ebook readers, and creating custom interactivity. Just watch out: as many websites (not on this list) claim to offer interactive ebook conversion services, where they actually mean digital, not interactive. There are literally hundreds of online services in this industry, but here is a list of the most popular and useful ones to keep handy.



By mailing a hard-copy book to [1dollarscan](#), you can get your book converted into a PDF for as low as 1 dollar. This will be extremely useful in case you don't have a soft-copy of your book.



[Sketchfab](#) is a good resource site if you want to add interactive 3D elements to your ebook. Easily embed any model into your page using their HTML embed viewer. And it requires no additional plugins.



Download or buy interactive ebook widgets from [BookWidgets.com](#) to use inside your ebook. These widgets are designed for iBooks Author, but can work in other ebook creators if they support them. By clicking on the widget button inside your ebook, a popup window will display showing the mini-app, such as a game, puzzle, or quiz.



Similar to above, you can download and buy interactive ebook widgets from [Bookry](#). The widgets are customizable. And it also supports drag & drop with iBooksAuthor.



[Kotobee](#) (our company) provides customized widgets and components for interactive ebooks. If you need a specialized animation, or interactive behaviour inside your page, this is the company to contact.

Stock photo websites

Imagery is extremely important for interactive ebooks. There are many professional stock photo websites such as [Dreamstime](#), [Depositphotos](#) (the one we use), and [istockphoto](#) that you can purchase professional images for as low as \$1.

But in case you want to cut down your costs, you may rely on those free stock photo websites, such as [freepik](#) or [freeimages](#). [Dreamstime](#) has a free images section that you can also check out. You may also find free icons to use from websites such as [iconfinder](#) or [thenounproject](#). For an extensive well-organized list of free stock photo resources (compiled by [Canva](#)), check out the following post: [Free Stock Photos: 73 Best Sites To Find Awesome Free Images](#).

Some of those websites would request you to credit the owner of the graphic, so play nice.

Video websites

It would be difficult finding video or audio fitting exactly what you need, unless you can find it on [YouTube](#) or [Vimeo](#). If you need something custom made, hire someone from a freelancer site like [freelancer](#) or [fiverr](#).

Audio websites

Similarly to video, possibly even more difficult finding something off the shelf. Before hiring someone, try your luck in [soundsnap](#) or [soundcloud](#).

4) Ebook creators and editors to build your interactive ebook

There is a number of tools you can use to create/edit your interactive ebook. Of course we are referring to interactive ebooks, so these applications will provide you with the tools you need to add interactivity inside your ebook.



[Kotobee Author](#) is our freely provided software for Windows and Mac, allowing you to create interactive ebooks based on EPUB format. The ebooks can be exported freely as EPUB files, web apps, desktop apps, with full customization enabled. Other export formats (such as native mobile apps), as well as SCORM integration, come at a price.



[iBooks Author](#) is Apple's popular ebook creation software, exclusively for Mac. This easy software allows you to create interactive EPUB-based ebooks that would run exclusively on Apple iBooks (on Mac and iPad), but not on other EPUB readers. Ebooks created by this tool would strictly have a fixed-layout.



[Aquafadas](#) provides a free plugin for to Adobe InDesign which allows you to add interactive components to your existing InDesign projects, and export them in multiple formats. You will need to pay only once you publish your ebook.



[Inkling](#) is one of the first companies to show an iBooks Author alternative for Android. They offer Inkling Habitat, a cloud web-based app that allows you to create interactive ebooks for all devices, in EPUB format. They allow import from various file formats.



[Interact Builder](#) allows you to create ebooks with advanced responses to events, like taps and touches. The application is not focused on just ebooks, but you can create games or any kind of apps using it. At the time of this writing, they only publish native mobile apps.



A friendly ebook creator for iPad. It is more targeted toward children story books. The resulting ebook will only be accessible through the App Store or their dedicated ebook store: [Demibook Storytime](#). The ebooks created are of fixed-layout.



[Atavist](#) is a web-based tool more focused on creating interactive ebooks for web, but also have the option of exporting EPUB in their Pro plans. They do provide excellent controls for reflowable layout content.



[Talespring](#) is a web-based tool for creating children story books to be published as a native mobile app for iOS, although in their FAQ they say that Android support is coming soon. They do not EPUB format.



[Kwik](#) allows you to create interactive storybooks directly from Photoshop. With this plugin, you can add animations, interactivity, even entire physics simulations. Obviously the resulting ebooks are fixed-layout. They can be published only as native mobile apps (iOS and Android).



[Tigercreate](#) uses layers and time-frames for animations, and hence provide flexibility with whatever you want to achieve. Again, this software is targeted towards interactive children storybook. They can be exported as mobile apps (Android and iOS).



Italy-based [Pubcoder](#) provides a software for Windows and Mac, and allows various interactive components in the ebook. Ebooks are fixed-layout and can be exported as native mobile apps (iOS and Android), as EPUB files, or kindle format.

5) Publishing & distributing your interactive ebook

When it comes to distribution, it's important to understand how it works. There are service providers known as aggregators that can distribute your ebook to international online retailers, as well as their own book stores for a fixed fee and/or commission out of your sales. They handle all the hard work of submissions, and ensure that your ebook gets the right exposure.

But if you have the time and the effort to distribute the ebook yourself, then you'll have the freedom to choose which platforms you want to sell your ebook on. This does not mean that you will keep 100% royalties since all major retailers will still take royalties, but there will be no aggregator commissions eaten away from you.

Distributing to individual platforms

Those are your choices if you decide not to go with an ebook aggregator and rather publish your ebook yourself. Of course, depending on the software you have used from the previous list, you may only publish to platforms that are supported in the software. The platform categories are: mobile apps, desktop apps, web apps, EPUB ebooks.

Ebook mobile apps

- 1) **Google Play App Store** \$25 one-time fee. They take 30% royalties.
- 2) **Apple's App Store** \$99/year annual store fees. They take 30% royalties.

Ebook desktop apps

Set-up online-selling functionality on your website to sell ebook downloads, using any one of the following services:

- selz.com
- selfy.com
- pulley.com
- instamojo.com
- payloadz.com

Ebook web apps

If you want to distribute your ebook for free, you can simply upload the web app to your server. If you want to sell it, this one's a bit tricky. You will need to develop custom functionality for your website. Or you can use our [Kotobee Cloud](#) solution to encrypt the ebook on the server, and have customers pay you using different payment gateways.

EPUB ebooks

This is a must-have format if you're going serious into the ebook selling business. Let's breakdown the different available options.

Google Play Book Store

Not very popular. Just like the case with app publishing, registration costs \$25 one-time fee, and they take 30% royalties for each book sold. But given its lack of popularity it would be better to only distribute here through an aggregator (more on aggregators later). Also, registration for signing up as a publisher has been closed for years now, due to rampant piracy issues.

Apple's iBookstore

Unlike the app store, registration to Apple's iBookstore is free. They take 30% royalties for each book sold.

Amazon Kindle Direct Publishing (KDP)

Amazon giants, who owns roughly half of the ebook market, provide you with two royalty options: 35% or 70%, with different requirements for each. Read more about this [here](#).

Nook Press (by Barnes & Noble)

Your royalty options are either 40% or 65% depending on your list pricing.

Distributing through ebook aggregators

Ebook aggregators will help you distribute to all the different retailers in return for a fee and/or commission. The common practice we've seen in ebook publishing is to manually publish to Amazon (KDP) and then publish to all other retailers using an aggregator. This is because authors experience over 50% of their sales through Amazon – they own roughly half the ebook market. Since they are the dominant retailer, it's best to avoid giving away part of your Amazon revenue to an aggregator.

Beside the support provided by an aggregator, there is usually other optional paid services such as cover design, copy editing, etc.



Probably the most popular automated aggregation service and value. Don't be let down by their website's humble design. [Smashwords](#) has been in business for a long time, and distribute to tens of ebook retailers across the world, including their own Smashwords store. Registration is free, and your royalties are 60% when selling through major retailers, or 80% when selling through their own store.



[BookBaby](#) is also extremely popular, but following a different model. Instead of giving away royalties, you make a fixed payment of \$299 instead, to have your ebook handled from start to finish. BookBaby takes 0% royalties. Your ebook is distributed to major retailers, including Amazon's Kindle.



[BookTango](#) offers an impressive package. Free registration, and no commission whatsoever, which is a really good deal. Distribute to B&N Nook, Apple iBookstore, Kobo, Google Books, and Amazon Kindlestore. They make money by selling optional complimentary services, like design and formatting.



[Lulu](#), a large name in the self-publishing industry, entered the ebook publishing market, and offers distribution to the Lulu store, B&N's Nook store, and Apple's iBookstore. Your sales royalties are 90%.

Conclusion

In this chapter, we looked at steps and resources need to create an interactive ebook. While there are many other tools and services for creating ebooks, the resources mentioned here are focused on interactive ebooks. In a highly competitive and expanding field, it's your content that defines you. And this guide is here to help you showcase it to its full potential. If you're new to ebooks, things may get messy at first, but the experience you yield will sure come in handy in your following attempts.

Too much to take in? I agree. So feel free to bookmark this chapter, and use the resources mentioned whenever you need to.

Best Ebook Layout Format: Reflowable or Fixed?



Ebooks have blown the market open for authors to get their creations out to the widest possible audience. They have also opened up a big can of worms when it comes to deciding the technologies behind best ebook practices.

When creating an ebook, there are two layout formats you can choose from: reflowable layout or fixed layout. But which one is best to choose when you want to create content that people can easily download and read?

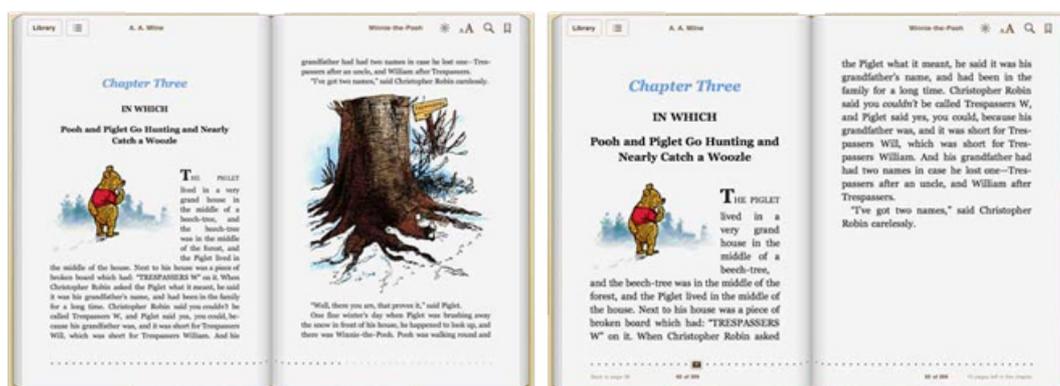
Each layout format has its own uses, advantages and drawbacks. It all depends on what you're creating and who you're creating it for. One of the best ways to decide what format you'd need for your book is to look at the pros and cons of each:

Reflowable layout

This layout format provides responsive text and images. Their look and positioning on the page depends on:

- The screen dimensions (mobile, tablet, or desktop)
- The screen orientation (portrait or landscape)
- What changes you've made to text size

Reflowable layout is the go-to ebook format for publications. Basically, this layout treats the content as floating text and images, then arranges them according to the screen size. Also, when users switch between portrait and landscape views, the content would rearrange itself to optimize readability for the new dimensions. Another importance is that the reader can change the size of the text which makes readability easier on smaller screens and for most readers with minor visual impairments.



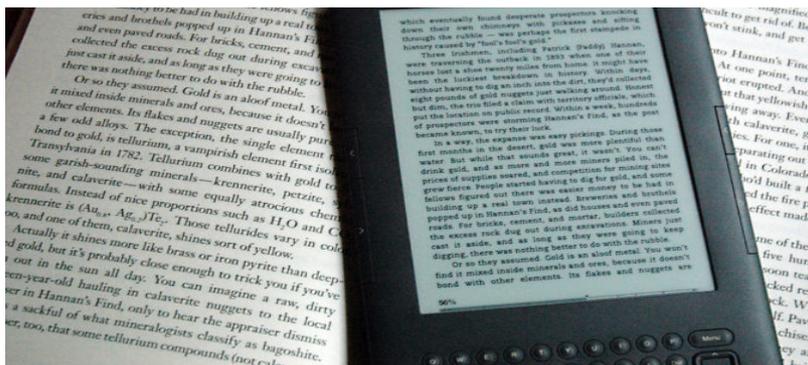
As the content renders itself to whatever screen dimensions, there is, in effect, “less thought” needed by the reader in terms of scrolling as they only ever need to scroll vertically, making the activity as natural and thoughtless as turning a page on a printed book. This just makes for a more friendly ebook.

The number of pages in a reflowable layout ebook is dynamic – it depends on how many it would take to fit the same content on the current screen size. Large screens would result in less number of pages than smaller screens.

It is standard practice that most text-heavy, single column format ebooks are in reflowable layout, which ends up on ebook readers either in [Mobi \(Amazon Kindle\)](#) or [EPUB](#) form. Most authors also choose this format as it's widely distributed (making it the more

profitable option). This entails that there will also be standard embedded fonts, tables, bullet lists, and formatted texts.

You're more likely to find most fiction and non-fiction (biographies, memoirs, history publications and business guides) genres in reflowable layout.



The pros

- Text can also be enlarged on screen without losing any essential formatting, making it very readable on small screens
- Reflowable layout ebooks are easier, quicker, and cheaper to produce
- They are saved in a smaller file size (so retailers are less likely to slap on extra download charges)
- Reflowable ebooks can be uploaded to most distributors
- They will work well on most ebook readers and devices (whether laptops or smaller devices)

The cons

- Authors (and designers) have little to no control over how the text and pictures are displayed on screen – they are simply attached to how the text is viewed and read
- Reflowable ebook formats only support simple formats such as text-heavy single columns
- There is little support for supporting embedded fonts.

Fixed layout

The fixed layout format (also sometimes referred to as pre-paginated layout) acts like a digital lock on text and image placement, in the same way that a PDF works. This is a big bonus for when the design and look is so important to the end ebook – think of a comic book or children's illustrated book, and picture-heavy books where certain images go with particular parts of the text. Fixed-layout is the go-to ebook format for image heavy publications, such as heavily illustrated books, cookbooks and recipe books, coffee table books and the like – the fixed layout in this instance is essentially the digital version of typesetting.



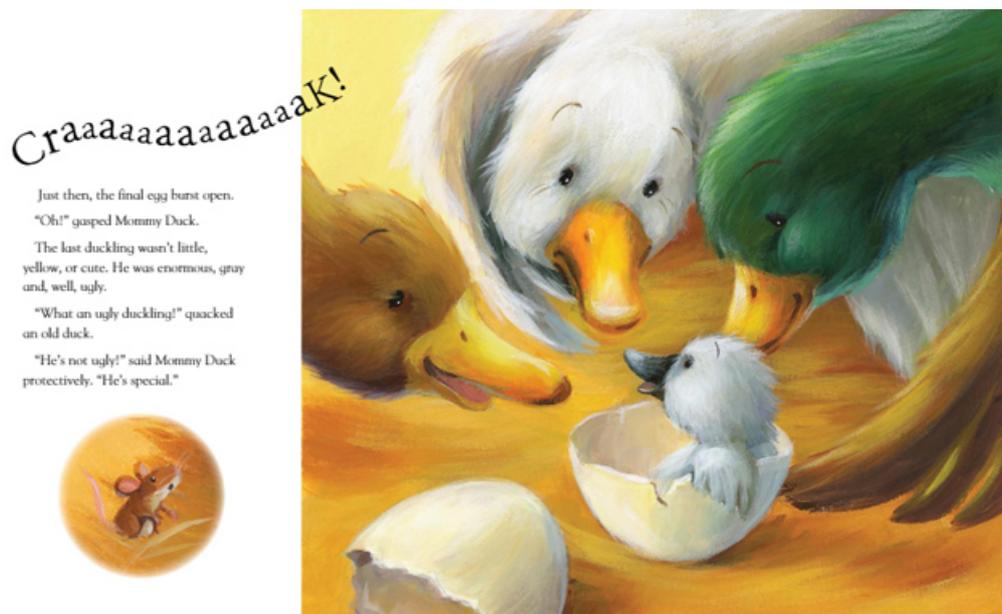
This format essentially works as a digitized replica of printed books, with the added benefit of being able to add interactive elements. As a result, you may have to zoom in and scroll both vertically and horizontally if you want to read the full text. It's not the most user-friendly format, but it does let authors and designers have complete control over design – important if the text and images are interlinked.

This is especially important if you have interactive elements overlaying each other. For example, imagine you're creating a children's ebook to teach the sounds of barn animals. You could add an image of a barn then add independent images of the animals to appear

inside the barn. That way, you can add interactive elements like audio-on-click and animations to the animals' images within the frame of the barn. To do this, you have to make sure that the design stays how you designed it, and not as the screen dimensions recommend.

This is a particularly good format for interactive multi-touch books, cookbooks, manga and graphic novels, travel guides and the like.

As another example, Amazon sells two versions of children's story book "The Ugly Duckling": a [reflowable layout version](#), and a [fixed layout version](#). Here's a screenshot from the fixed layout version:



Until the recent past, the fixed layout was generally seen as not very user friendly, although fortunately for authors (and publishers), this is changing. The technology, particularly in [Adobe InDesign](#), is quickly catching up with the giant leaps forward in digital reading.

This means you can define how the text wraps on the page, where lines start and end, and where the text is placed (whether it's above an image or to the side). It's useful if you're trying to highlight a particular image, for instance, which is particularly important in the narrative. You also have full control over where and how much text is placed on the page, and where the images are. This control remains, no matter how the reader scrolls or if they're reading the ebook in portrait into landscape.

Other authoring tools, such as our free [Kotobee Author](#), allow you to import from existing fixed-layout formats such as PDF, and distribute the pages into a fixed-layout EPUB ebook.

The pros

- The author and designer keep control over how the ebook is displayed on screen – with images and text locked to specific points to maintain this control
- Fixed-layout format is also the best option if your text is multi-column, where fixing text at specific points on the page is important
- It is beneficial if the key element to the book is the design – as in cookbooks and graphic novels in particular

The cons

- Fixed layout ebooks don't give the reader/user any choice in font, spacing, margins, or text size (which is not ideal if you're also targeting the book to visually impaired users, especially if the text is too small)
- Not every ebook reader or retailer supports this layout, and some retailers will not distribute this format too, so your outreach will be more limited
- Fixed-layout ebooks tend to be larger in file size, so some retailers, such as Amazon, will enforce higher download fees
- Fixed-layout ebooks are also more expensive to produce and update, making it a bit annoying in terms of profitability

When exporting in this format, you'll end up with an ebook in formats such as [KF8](#) (which is now becoming less popular) and [Kindle textbook creator](#) (for Amazon Kindle Devices); [EPUB3](#) (Apple, Google and [Kobo](#)); [PagePerfect](#) and [NOOK Kids](#) (Barnes and Noble).

This is a great format if you're using full-bleed graphics, background images, double-page spreads, multi-column text and vertical text. It's also the better layout for supporting embedded font, depending on the device and software available on the user's end.

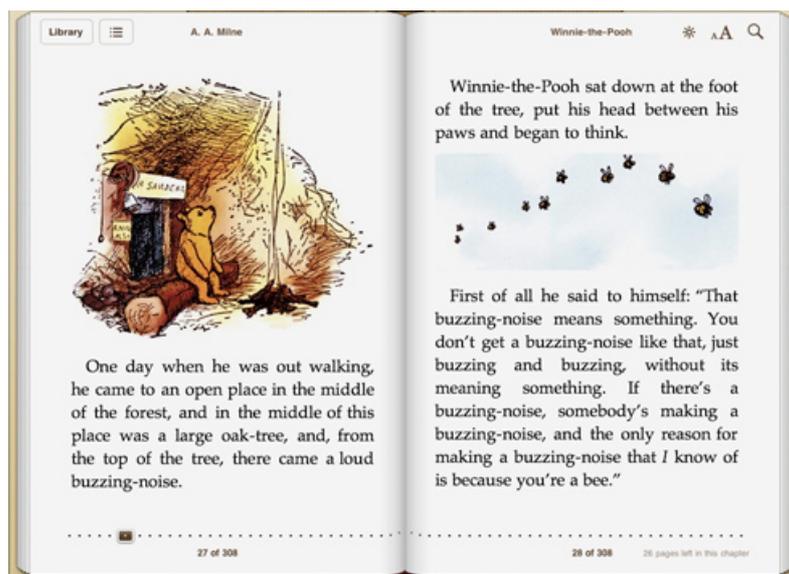
The one thing to remember, however, is that a fixed layout looks better (and works better) on a bigger screen. Put another way, it's easier to read a fixed layout text on a computer, laptop or tablet screen, but fairly annoying on a mobile. Think of [Alan Moore's famous graphic novel "V for Vendetta"](#) – here, the design element and use of images is obviously an important part of the story-telling.

For a better understand the technical differences between the two layouts, read this support article: [Understanding reflowable / fixed layout formats](#).

Now that you know the advantages and disadvantages of the fixed and reflowable layouts, there's two main considerations that must be kept in mind. Is your content linked to each other in a way that any images, texts, audio, etc. depend on each other for where they stand? Also, who is your ebook designed for?

Interactive vs Static

If text and pictures aren't specifically linked with each other (essentially, the pictures simply help emphasize the text's ideas rather than form a key part of the storytelling), you'll find the reflowable layout format works best. For example, if you take converting a "[Winnie-the-Pooh](#)" book, you can emphasise the central character's famous love of honey with image of a bee on the page. This design device avoids having a text only page, but the bee isn't linked to a specific sentence or paragraph in the page.



If, on the other hand, pictures and text are linked together, as in interactive multi-touch books, the fixed-layout format takes top spot. It's also the best option if you're looking to create image spreads (think of [coffee table books](#) where images are frequently placed as a double page spread).

This is because the content (and that includes images too!) is laid out to fit the screen, rather than to read like you're holding a printed book in your hand. Images will therefore look smaller in the reflowable layout – because the image will be reduced to fit horizontally onto one page (rather than two).

Reader accessibility

How accessible is your ebook to visually impaired readers?

No matter how awesome your ebook is, if it doesn't allow them to alter the font size, it will make it a hard task for them to read content (and off-putting).

On one hand, a fixed layout format may be good, because it allows readers to zoom in and out at will – but it may be very inconvenient to constantly scroll to read the text.

On the other hand, this is where a reflowable layout may work best, as the reader/user will be able to adjust the font which then adjusts the book's layout to fit the screen (text and picture placing gets moved accordingly). Many readers also provide further accessibility features than only the text size, such as font type or color overlay to assist those with [Irlen's Syndrome](#).

Egria. It is in a German-speaking country—in Bohemia, not far from Carlsbad. ‘Remarkable as being the scene of the death of Wallenstein, and for its numerous glass-factories and paper-mills.’ Ha, ha, my boy, what do you make of that?” His eyes sparkled, and he sent up a great blue triumphant cloud from his cigarette.

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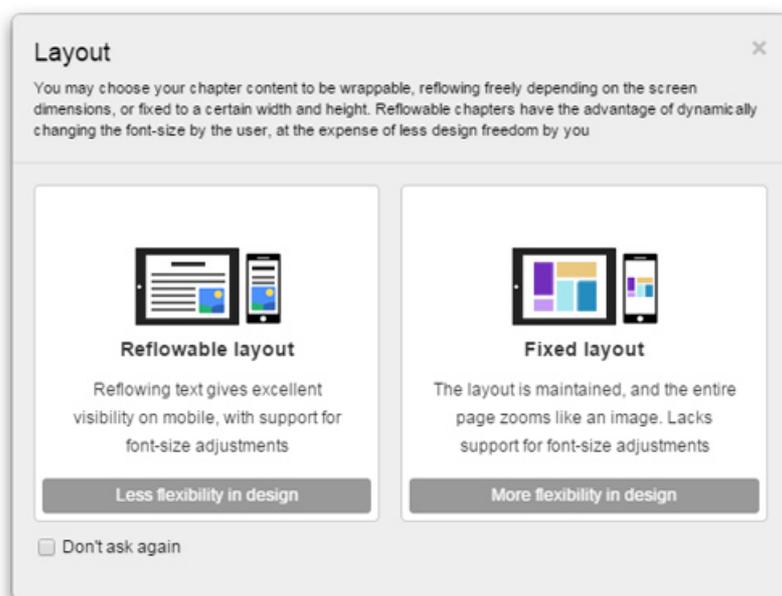
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Combining both layouts

There is a grey area where you’ll find it appropriate to combine both reflowable and fixed layouts in the same ebook, across different chapters. For example, if you’re writing a [hypertext fiction](#) or [CYOA \(Choose Your Own Adventure\)](#) ebook, you can create a chapter of text followed by a page of an interactive map, or even a game. Then the readers’ choice would determine how the story progresses from there. This would be the best way to create an ebook that has both aspects of long-form, one-column text complemented with graphics and highly interactive elements on interchanging pages.

Be warned though, that many readers do not support both layouts in the same ebook. On the top of the list comes Apple iBooks (unfortunately). Overriding a book’s global layout format by the chapter is a valid EPUB specification (check the [rendition:layout property](#)). Nonetheless, Apple iBooks forces the book’s layout onto all the inner chapters.

The good news is that [Kotobee Author](#) and [Kotobee Reader](#) allow the authoring and reading of mixed-layout ebooks, where you can actually specify whether each chapter you create is fixed or reflowable.



Conclusion

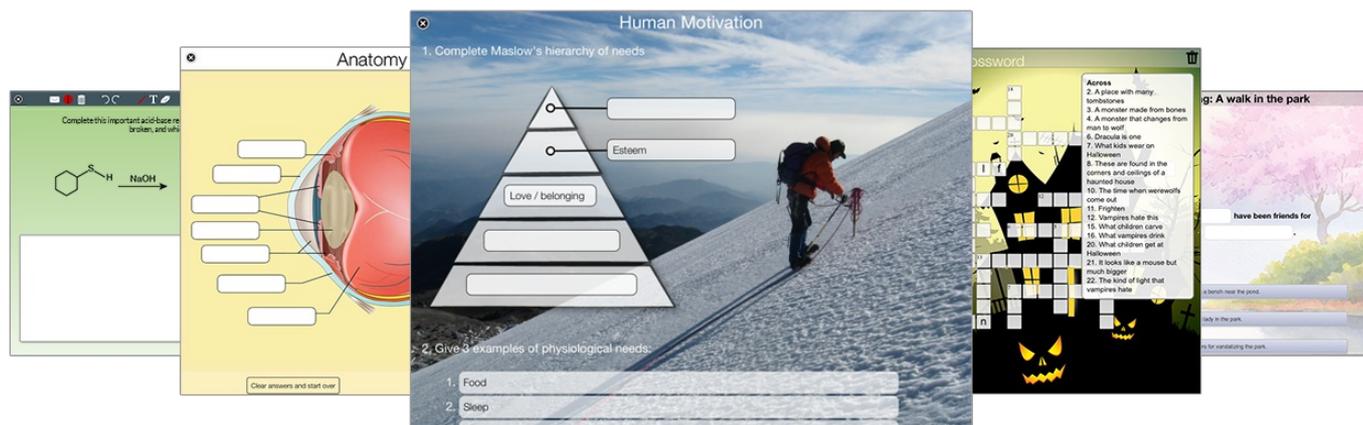
Just use this chapter to answer these four questions, and you should immediately know which format to choose and why:

- Is it an interactive, picture-heavy book or a text heavy novel?
- Is there one column per page or a more complex layout?
- Are the graphics and images a key element of the text?
- Who is your target audience?

Now it will be much easier for you to decide what layout format you’ll need for what type of ebook you’re looking to create. With picture heavy books that rely more on design and the need to keep text and images “locked” in place, you’ll find that fixed layout formats give you the best look to the ebook. For ebooks with a much simpler layout and less need to keep text and images linked together, a

reflowable layout would work better.

Everything You Need to Know about Book Widgets



Book widgets could be the next big thing in digital publishing. Ever since their introduction by Apple's [iBooks Author](#), they are being used more frequently in interactive ebooks. Especially with their easy customization and integration, they have the potential of rapid expansion in this industry. They resemble Lego blocks, with the difference that they can be reproduced and re-used infinitely. Because the contents of a widget are based on open web standards (HTML5), they can be created or edited in basic [HTML/JavaScript editors](#). Thus, the flexibility.

However, book widgets are considered to be a new topic for many, as there are no confirmed standards yet (or is there?) to be employed by creators other than [iBooks Author](#). So you will find online resources about book widgets scarce. This is why we decided to collect as much information as we can about book widgets, and give it to you here.

This chapter is divided as follows:

Book widget examples

Types of book widgets

Where to find book widgets?

Adding book widgets in Kotobee Author

How to create book widgets from scratch?

Conclusion

A lot of visuals will be used to make this chapter light and easy to follow, so no worries. If you're ready, jump in to the first section.

Book widget examples

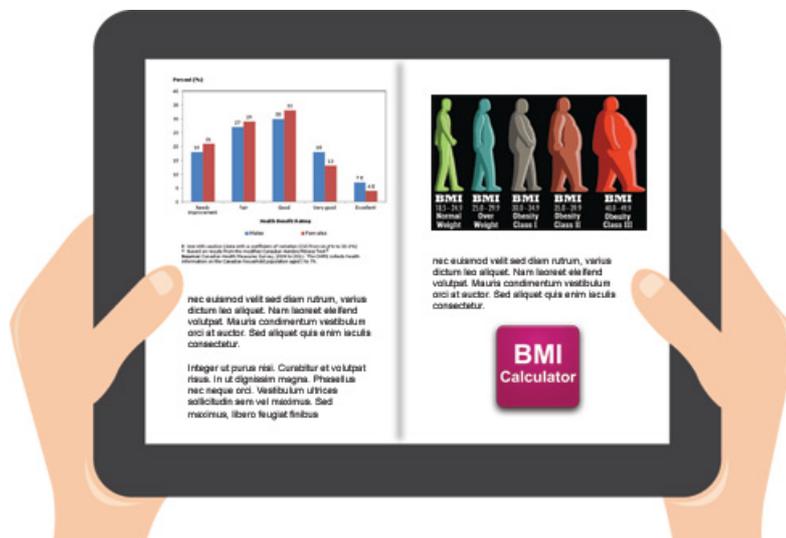
Let's first look at a few practical examples of different book widgets that can be incorporated into ebooks of different topics.

Social media sharing



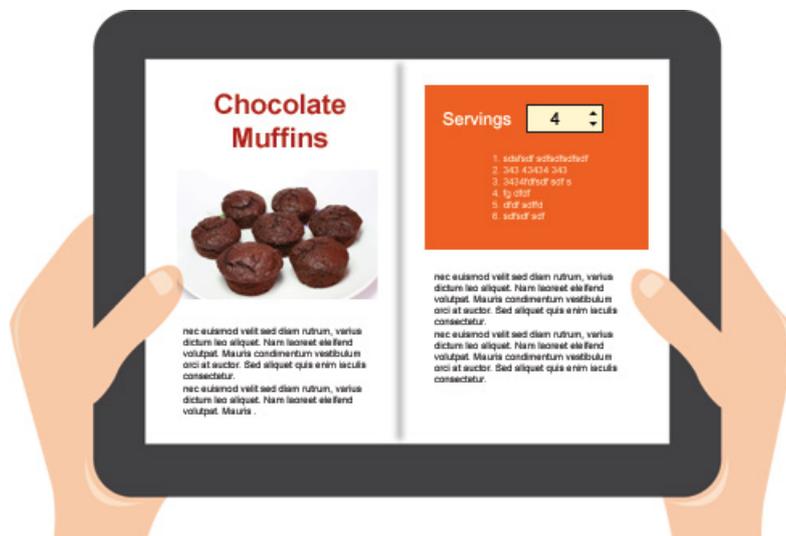
This generic type of widget can display a share button for each chapter, where clicking on the button will allow you to share a summary of the chapter through different social channels of the user's choice.

BMI calculator



Imagine reading a health & fitness book and you are trying to determine your BMI (Body Mass Index) to know which fitness plan works for you. Instead of using an external source you can use a BMI calculator widget inside the ebook.

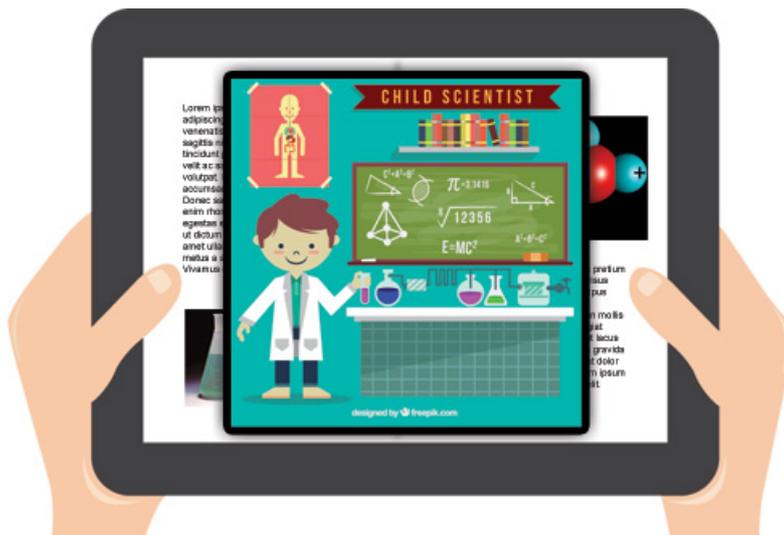
Cookbook recipe scaler



An actual widget we had developed for a client's cookbook. This kind of widget allows you to specify the number of servings for a recipe

in order to see the specific ingredient quantities needed.

Interactive scientific experiments



In science books it's hard to explain a full experiment and the outcome of it only with words. This is where you use this widget to show how it's done and even let the reader take part of the process.

Quizzes and exercises



Easily integrate different kinds of exercises to the end of each chapter and have the results automatically calculated.

Types of book widgets

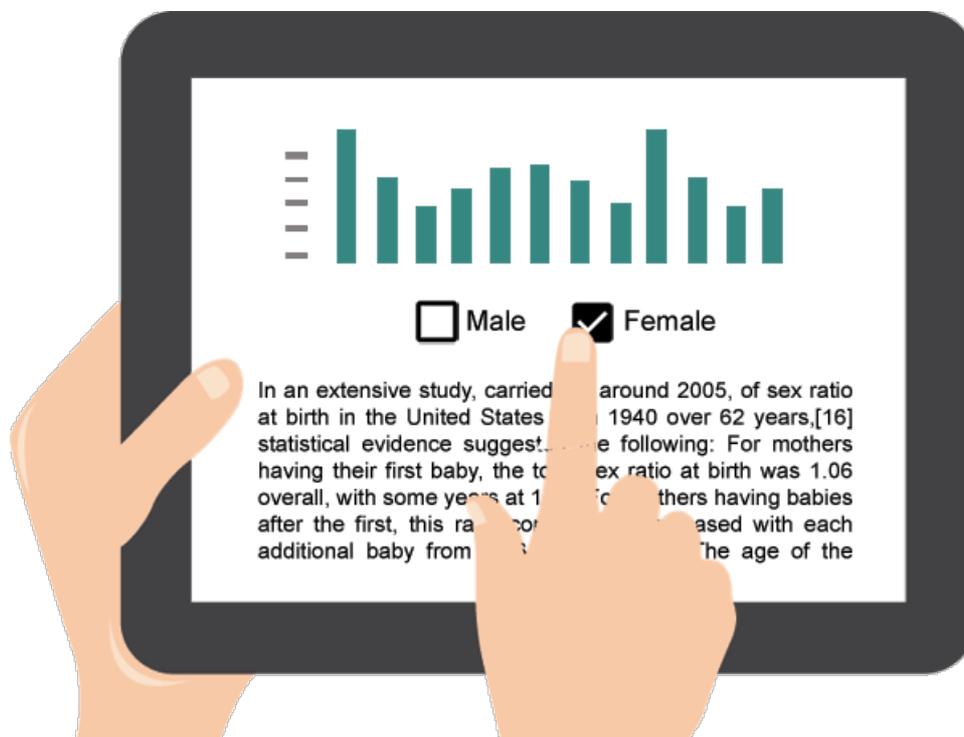
Believe it or not, the EPUB 3 standard supports a widget specification as [you can see here](#). We haven't been able to reach any other documentation nor find examples implemented by developers. Not to mention that these specifications must be supported by the ebook reader, which we doubt we'll find any. So we will treat these definitions as *young* at this moment, and perhaps in the future once it has become more mature and practised, we can update this chapter. Let's look at the commonly applied widgets instead. From what we have seen, every widget can be categorized into one of two groups: popup widgets, or page widgets.

Popup widgets (a.k.a iBooks Author widgets)



Popup widgets are our best effort in naming this kind of widget in the most meaningful way. Those are the types of widgets used in Apple [iBooks Author](#). These book widgets are represented by a button on the page which can be placed anywhere. Once the user clicks the button, the widget app will open in an independent popup window, filling the screen. Popup widgets are better used for apps that need to take a big chunk of the screen, and do not need to have the ebook content concurrently visible. Examples include interactive maps, exercises, and mini-games.

Page widgets



Page widgets on the contrary appear inside the ebook page itself, alongside the book content. In fact, the widget would flow with the book content, and preserve its order within the information. This is particularly better for widgets such as animations, charts, forms, interactive info-graphics, or any kind of material that needs to be backed up by surrounding content. This is technically feasible using a canvas or iframe HTML element. The limitation here is that the available space for the widget is limited. And having many widgets running concurrently can affect the ebook's performance.

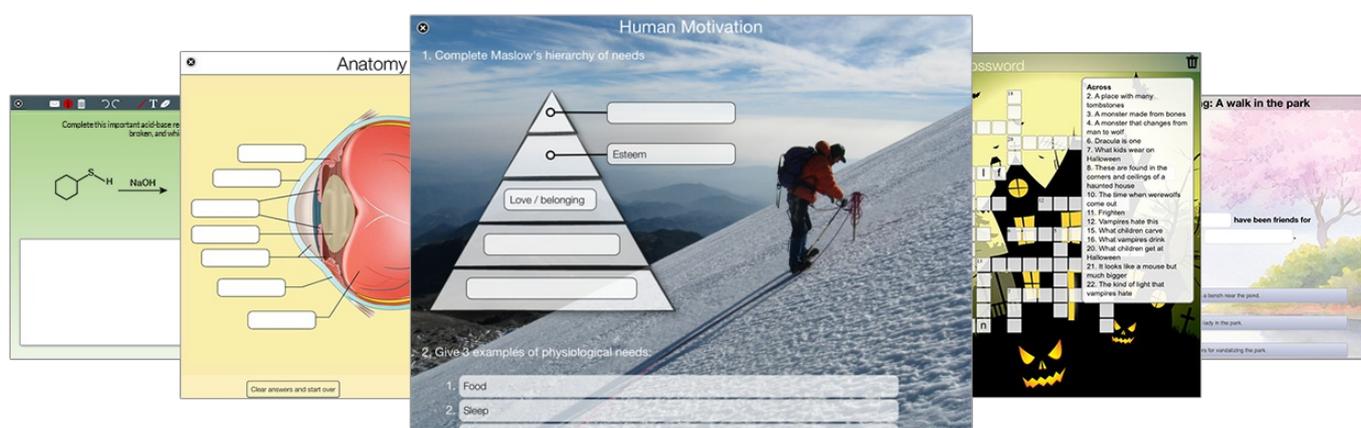
Where to find book widgets?

There's no better answer than to Google them. Different companies provide specialized widgets, focused for their cause. However, there are a number of websites dedicated to book widgets, which you can use to download common book widgets, and even customize them with your own content and design. We've been using two for quite a while in our projects and we greatly recommend them.



Bookry.com offers 30+ free widgets available for download. Their widgets falls into 3 main categories: puzzles and games, web services and functional. Their widgets are cloud-based, which give you some some benefits, such as tracking user behaviour, collecting analytical data, and pushing updates to your widget automatically. The widgets are customizable such that you can be using your own data (imagine for quizzes, tests, etc) or your own imagery (imagine for games and puzzles). Bookry can develop custom widgets for you at \$499.95 or allow you to use their available free widgets in a single book, without the Bookry branding, for

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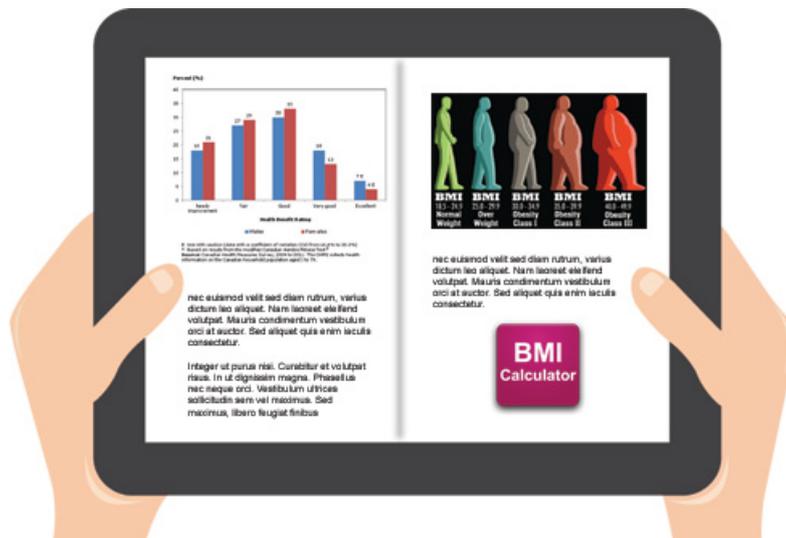
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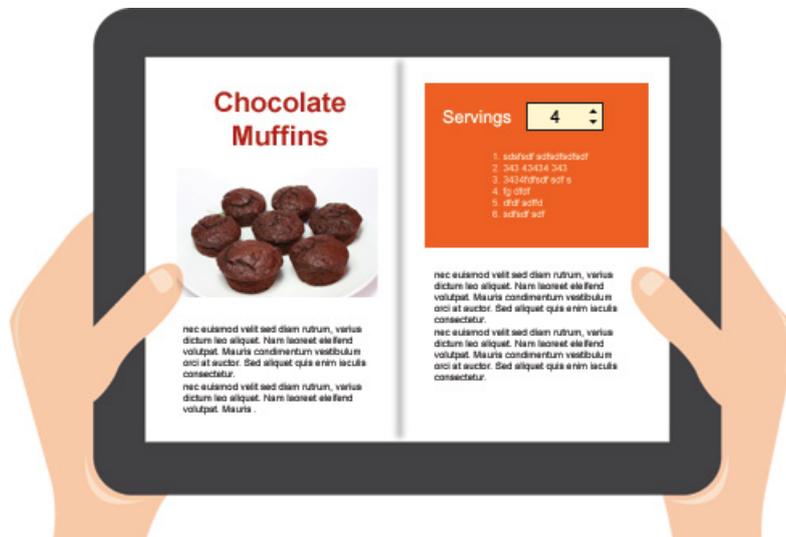
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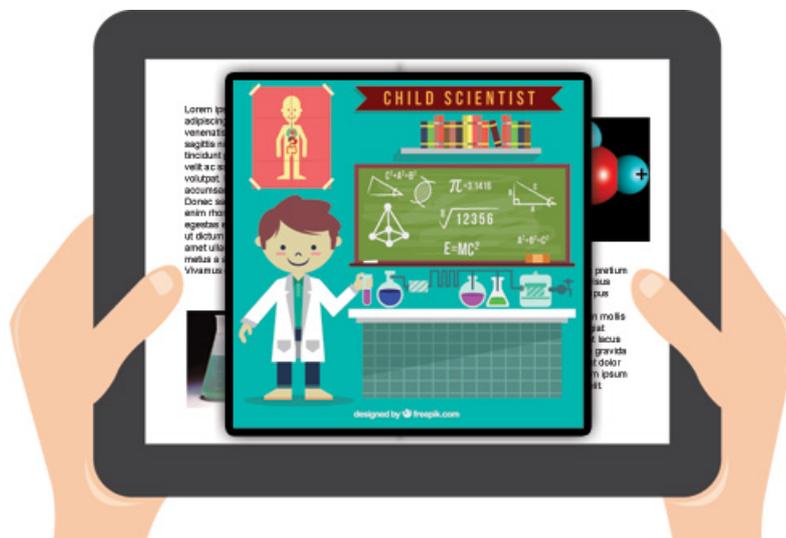
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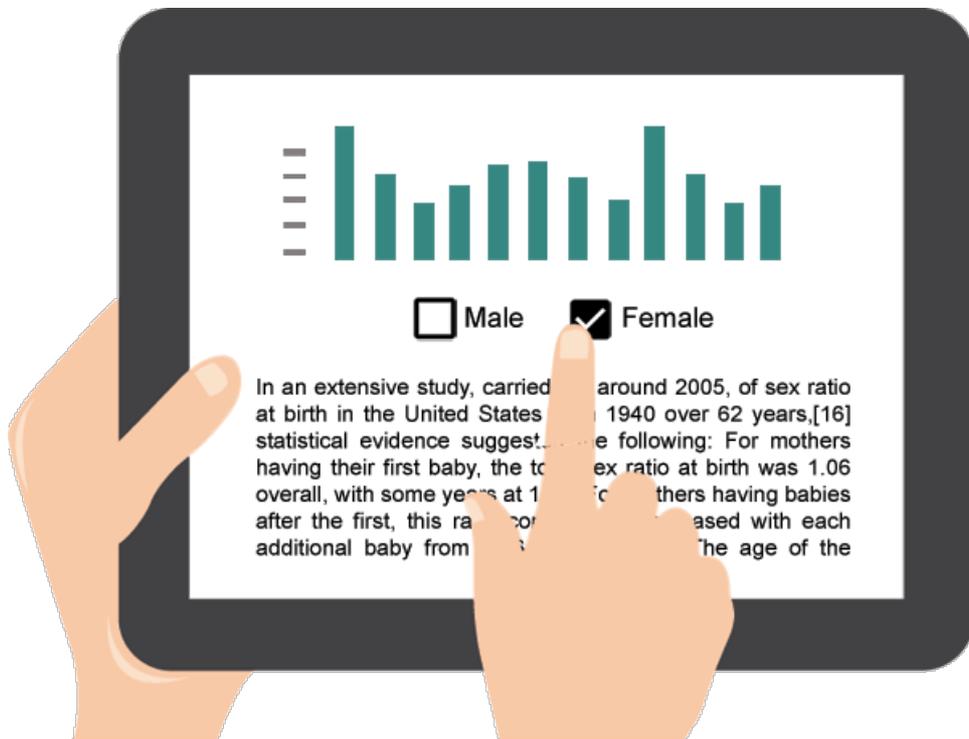
Believe it or not, the EPUB 3 standard supports a widget specification as [you can see here](#). We haven't been able to reach any other documentation nor find examples implemented by developers. Not to mention that these specifications must be supported by the ebook reader, which we doubt we'll find any. So we will treat these definitions as *young* at this moment, and perhaps in the future once it has become more mature and practised, we can update this chapter. Let's look at the commonly applied widgets instead. From what we have seen, every widget can be categorized into one of two groups: popup widgets, or page widgets.

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[Bookry.com](#) offers [30+ free widgets](#) available for download. Their widgets falls into 3 main categories: puzzles and games, web services and functional. Their widgets are cloud-based, which give you some some benefits, such as tracking user behaviour, collecting analytical data, and pushing updates to your widget automatically. The widgets are customizable such that you can be using your own data (imagine for quizzes, tests, etc) or your own imagery (imagine for games and puzzles). Bookry can develop custom widgets for you at \$499.95 or allow you to use their available free widgets in a single book, without the Bookry branding, for \$124.95.



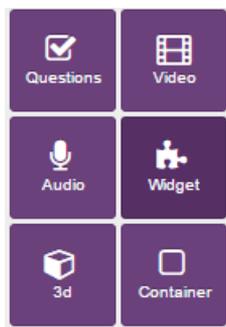
[BookWidgets.com](#) is a similar provider of book widgets like Bookry. They provide customizable widgets in diverse categories, but we realize there is particular focus on education, such as exercises and school activities. Widgets are free to use, but they are overlaid with a watermark which is removed once you subscribe. The subscriptions are annual and give you access to all widgets in their library. Subscriptions are \$49/year (for teachers) and \$199/year (for publishers). You may access the widget library from [here](#).

*Any mentioned prices were checked at the time of publishing this ebook and are due to change in future.

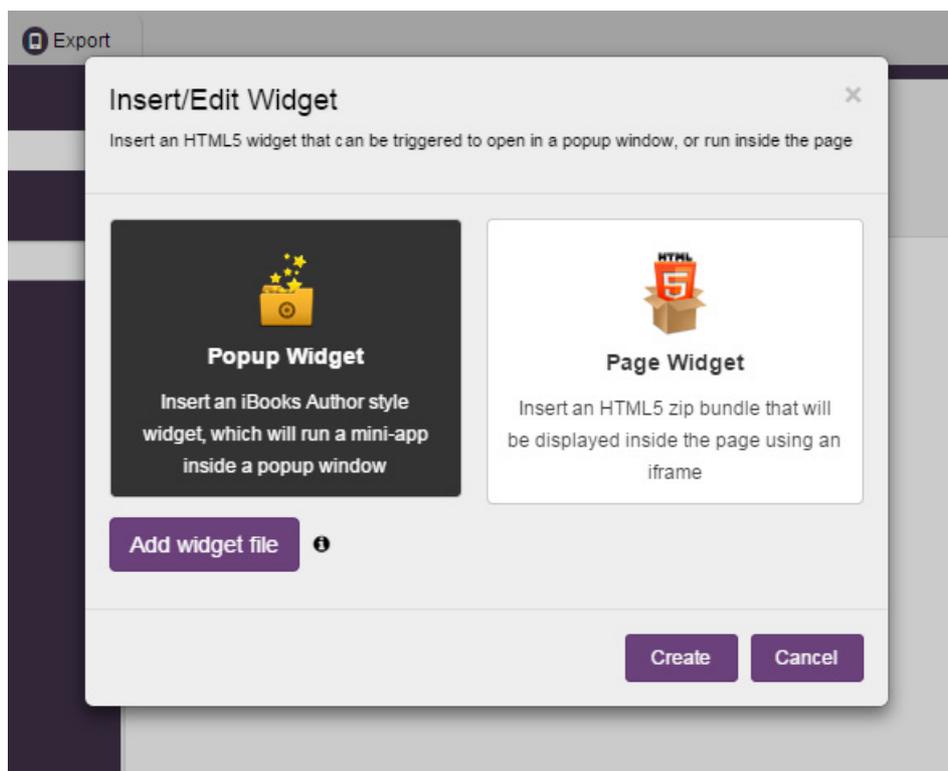
Adding book widgets in Kotobee Author

[Kotobee Author](#) supports both types of widgets: popup widgets and page widgets. This means that you can use any of the widgets available from the previously mentioned websites, even though they are thoroughly marketed for iBooks Author / iPad. The widgets will run correctly and consistently for web, desktop, and mobile (Android, iOS, and Windows Phone).

To add a widget into your ebook, click on the Widget tool from the toolbox.



You will first need to choose which type of widget you want to add.



Especially with page widgets, you will have further options to set, such as the dedicated space for the widget, margin, and text-wrap. For popup widgets, you will be able to select a custom button image of your choice. Click on Create, and your widget will be added.

How to create book widgets from scratch?

Creating your own widget from scratch highly depends on your web programming proficiency. If you believe this is something difficult for you then stick instead to widget builders like the ones in bookry.com and bookwidgets.com. If you need to create something very specific then here are some guidelines for the process.

As we've already mentioned, an ebook widget is basically an HTML5 app bundled into a Zip archive. The HTML5 app may consist of a root HTML file along with a collection of images, JavaScript, and CSS files. It does not mean that the entire functionality is limited to these files, but it can be shared with a backend system, written in any language of your choice, such as PHP, Java, or .Net. If a backend system is used, then an Internet connection is required for the widget to operate correctly. A smart widget may run without an Internet connection, but once an Internet connection is detected, it will utilize services from the backend.

JavaScript is perhaps the most important coding tool required, since it's what intercepts interaction from the user, as well as controls what displays on the screen. Entire games and apps may be developed using JavaScript. To develop your widgets, you can use JavaScript frameworks and libraries, that can ease the process for you, such as [jQuery](#), [Angular](#), [Knockout](#), etc. Just be careful with the file size – many times you're better off sticking with vanilla JavaScript (plain code) if you want to achieve simple functionality.

After your app is developed and ready, name the root index file as index.html. All that is left, to make the widget compatible with iBooks Author, is to add an Info.plist file. This file defines some properties that are not mentioned elsewhere, such as the width and height of the container, and the location of the root file (index.html in our case). Also, if you would like to represent this widget with a certain icon as the button, the icon should be named Default.png and should sit at the root level. This is an example of an Info.plist file:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/PropertyList-1.0.dtd">
<plist version="1.0"><dict>
<key>BackwardsCompatibleClassLookup</key>
<true/>
<key>CFBundleDevelopmentRegion</key>
<string>English</string>
<key>CFBundleDisplayName</key>
<string>calculator</string>
<key>BRNotifiesOnReady</key>
<true/>
<key>CFBundleIdentifier</key>
<string>com.bookry.calculator.embed</string>
<key>CFBundleName</key>
<string>calculator</string>
<key>CFBundleShortVersionString</key>
<string>1.0</string>
<key>CFBundleVersion</key>
<string>1.0</string>
<key>KFNotifiesOnReady</key>
<true/>
<key>Height</key>
<integer>768</integer>
<key>MainHTML</key>
<string>ibooks_container.html</string>
<key>Width</key>
<integer>1024</integer>
<key>IBNotifiesOnReady</key>
<true/>
</dict>
</plist>
```

Place all the files into one folder postfixed with ".wdgt", compress it into a zipped file, and congratulations!

In a separate ebook, we will look take a real-world example and implement a book widget completely step-by-step.

Conclusion

Widgets are potential a game changer in the industry. They just need the right exposure and creative implementation to make it spread. Book widgets will give a real boost to your ebook and add true interactive value to it. Luckily, with specialized providers such as [Bookry](#) and [BookWidgets](#), it's easy to get your feet wet immediately without requiring the expertise. Otherwise, you can develop your own widget using open web technologies. Whatever you create, let us know and we'll be happy to share it across our channels!

EPUB vs PDF: The Battle of the Formats

With the rise of ebook readers, EPUBs have become the stars of the show, endlessly flaunting their flexibility for reading on multiple devices. But are EPUBs and PDFs really that different from each other?



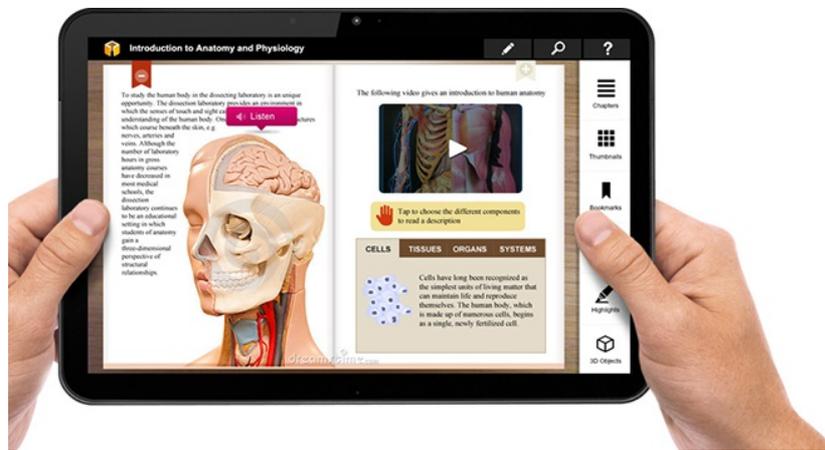
Both PDFs and EPUBs can be read via ebook readers and on computer devices – but because they come from relatively distinct backgrounds, the ways in which readers can view them are slightly different. Below are five pointers to when EPUB manuscripts trump their PDF counterparts, and why you should really consider publishing your ebooks as EPUBs.

The origins of EPUB and PDF

The first distinction to be made refers to the purpose for which PDFs and EPUBs were respectively developed in the first place. PDFs remain strongly linked to the hardcopy versions they were digitized from – and they are intended as exact replicas of those documents. It's the same as having a printed document in your hands, but you're reading it via a screen.



EPUBs, on the other hand, were developed specifically with tablets and smartphones in mind. Creating a PDF of your manuscript won't be the best idea when you're actually looking to create a digital file that can easily be read on whatever device the reader chooses.

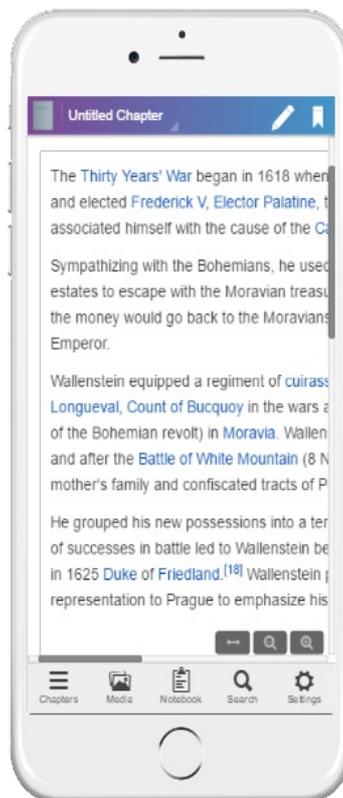


This has a lot to do with the differences in layout format in both PDF and EPUB technologies (and we'll get to exactly why the format is so important here in the next point). As things stand, your best option for making ebooks really readable and reader-friendly is to create an EPUB instead.

EPUB vs. PDF: Reading experience

PDFs are essentially a form of a printable document – think of a business document which has essentially been digitized (in which case it has become a PDF).

They are meant to look exactly the same as the printed document you can hold in your hand rather than view on a screen. Readers will see exactly the same spacing, fonts, margins and image placement. However, if they are reading the text on a mobile device, readers may well end up having to scroll horizontally depending on the size of the screen.



The need to zoom in and out and scroll horizontally to be able to read the full text is one of the major downsides to the PDF format. This is not a format that most ebook readers would really appreciate, especially when they're sitting on the beach trying to enjoy a new book on a smaller device.

The comparable version to this in EPUB terms is the *fixed format ebook* (which looks like a PDF). The fixed format layout ebook has several benefits when you're trying to create image heavy ebooks that rely on a specific design and layout.



With this static design in place, you maintain complete control over the overall look of each page, whilst also preventing any changes in layout and text/image position. The text is not dependant on the screen size with text no longer reflowable.

It also means that, just as with PDFs, readers need to zoom in and out for a closer look at the detail, and scroll horizontally to be able to complete the sentences.

Reflowable EPUBs, on the other hand, are more text orientated, fitting the text around the screen you're reading from. In turn, images are also resized in proportion to the size of the screen and their relation to the screen. It also means that the text will in turn flow around the images as well. This is the format that most ebooks actually rely upon, and it gives you a lot more flexibility as to how the page looks when it's actually being read.

This is a particularly important point to keep in mind, as you're providing the reader with a document without really knowing what kind of device they will be viewing it on. It's simply a matter of readability and how easily you want your readers to be able to actually read the text.



With this format, if a reader chooses to switch from a tablet to their smartphone to access the [Kindle app](#), they will still have the same reading experience as they would if they were on a bigger screen.

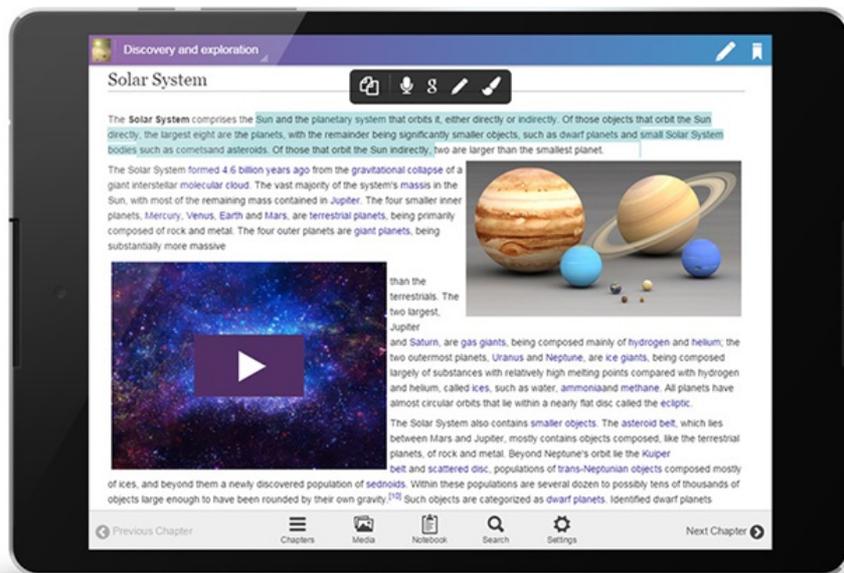
The fact that the screen size has got smaller doesn't really make a difference – and the reader will still be able to view the book horizontally and vertically without too much of a shift.

Read: [Best Ebook Layout Format: Reflowable or Fixed?](#)

Compatibility with ebook reader devices

PDFs can to some extent be read via devices sold by the major ebook retailers. As mentioned already, though, PDFs generally can't be read on a small screen without a lot of scrolling and zooming.

This is where the EPUB format comes in, and most major ebook retailers and distributors will now only sell books that are in this format. And if you're expecting your readers to own a natty device such as a [Kindle](#) or a [Nook](#) (or to be reading it via the apps), you'll definitely need to consider publishing your ebooks in EPUB format.

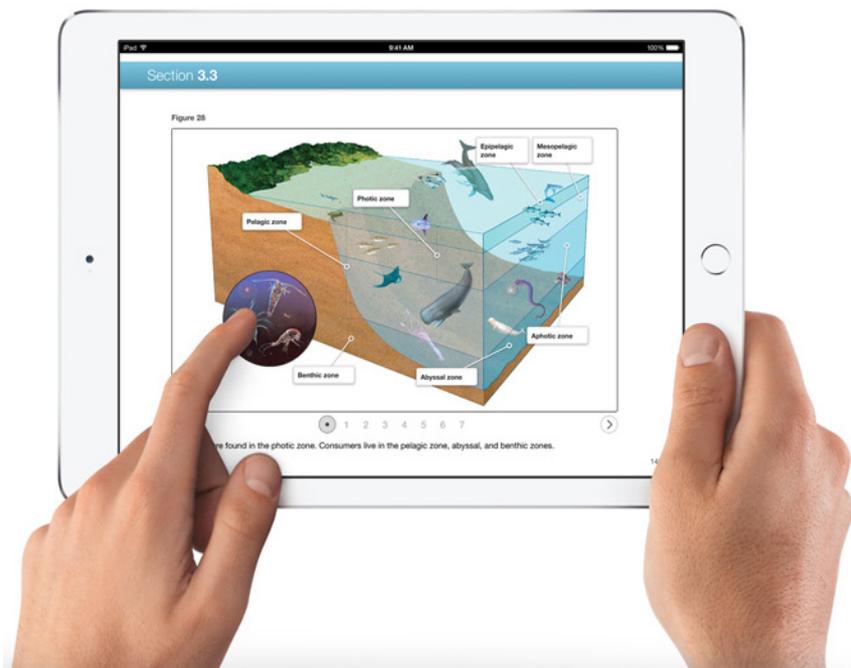


EPUBs have been designed with devices such as these in mind, making them much more compatible (and easier to read). You also gain flexibility around the type of EPUB you can choose – in that it's straightforward enough to convert fixed-format EPUBs into reflowable versions.

If you were to do the same sort of conversion from a PDF, you'd have to go back to the original file and convert again from that. Bear in mind that PDFs do not convert well to an internet friendly format. They can be converted into EPUBs, but the end result might not look great as they will not have been designed for that final look.

Interactivity in EPUB

More importantly, one of the major bonus features over PDFs that EPUBs can boast is their ability to be interactive. This basically means that you can add embedded features or links such as video, sound effects, and audio narration features, moving images and other interactive elements.



It gives you much more flexibility when it comes to design, layout and what kind of media you can embed inside. Readers also have a much more engaging experience with the EPUB format, simply because it's designed to be more reader friendly. PDFs, on the other hand, allow no media add-ons or widgets – they're literally no better than a digitized version of a book or document.

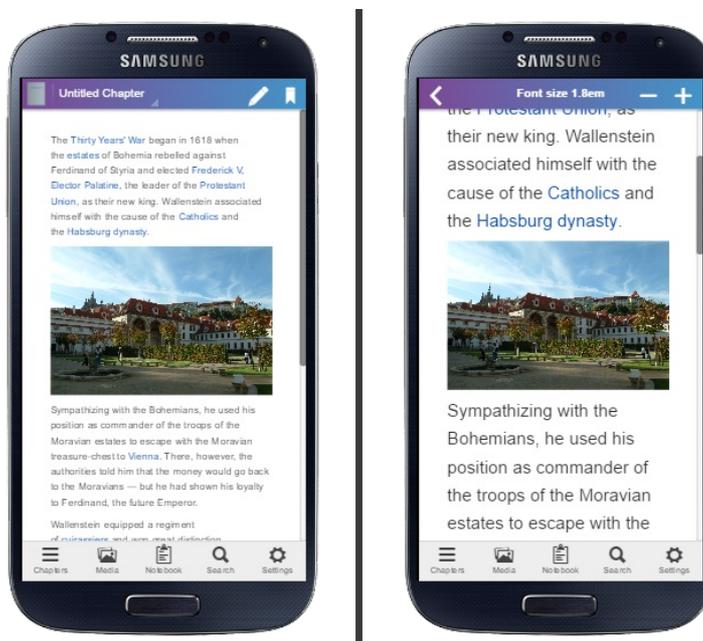
Read: [5 Hacks for Creating a More Engaging Ebook](#)

Reaching a broader audience

If you're aiming to make your ebooks as accessible as possible to the widest audience possible, then you'll need to consider visually impaired readers. By simply adding an audio narration widget to your EPUB, visually impaired readers gain more immediate access to the text on the page.

PDFs, on the other hand, do not offer the same level of accessibility, making them less user-friendly. EPUBs, particularly reflowable format ebooks, also offer readers more capabilities to alter the size and style of the font, which is another useful feature for the visually impaired.

It means that the text can simply be increased to the size the reader needs, with the text and images adjusting to the screen.



Once you've got your manuscript finished and edited, the next step is deciding on the format to convert it to for publication. With the above points taken on board, you'll find that the EPUB format is not only much easier for readers to use, due to the possibilities in reflowability. It can also create a much more enjoyable reading experience for readers, due to the greater interactivity possible. Due to its audio narration capabilities, EPUBs are much more accessible to a wider audience.

Final consideration

EPUB is an open source standard, recently acquired by the [W3C](#) (which is a promising step, in our opinion, and will lead to further development and widespread use of the EPUB format). This basically means that items such as [source code](#), [blueprints](#), and documentation are freely available to the public. This makes it easier to edit and manipulate EPUB files and transform them to different formats.

On the other hand, PDF is a proprietary format, originally created by [Adobe Systems](#), and is now owned by [ISO](#). This presents several limitations to editing and converting PDF documents to other formats. Bear this in mind when you're planning for the future of your ebook. Is it a one-time publication or would it ever need to be edited, updated or adapted to other platforms?

Converting Your PDF to a TRULY Interactive Ebook

You've finished the hard part, writing your manuscript and melding together text and images to create that perfect final draft. Now that you've saved your future ebook as a PDF file, it's time to convert it into a highly effective (and usable) interactive ebook. Any text document can be converted into an EPUB format and readable on virtually every device.



There are, however, just a few steps that you need to perform on the way to getting that ebook on the road. Fortunately for you, each step is extremely simple and easy to perform, with very little need for learning extra skills. All it takes is just a beady eye to winkle out any slippery grammar and spelling mistakes, a bit of planning and voila!

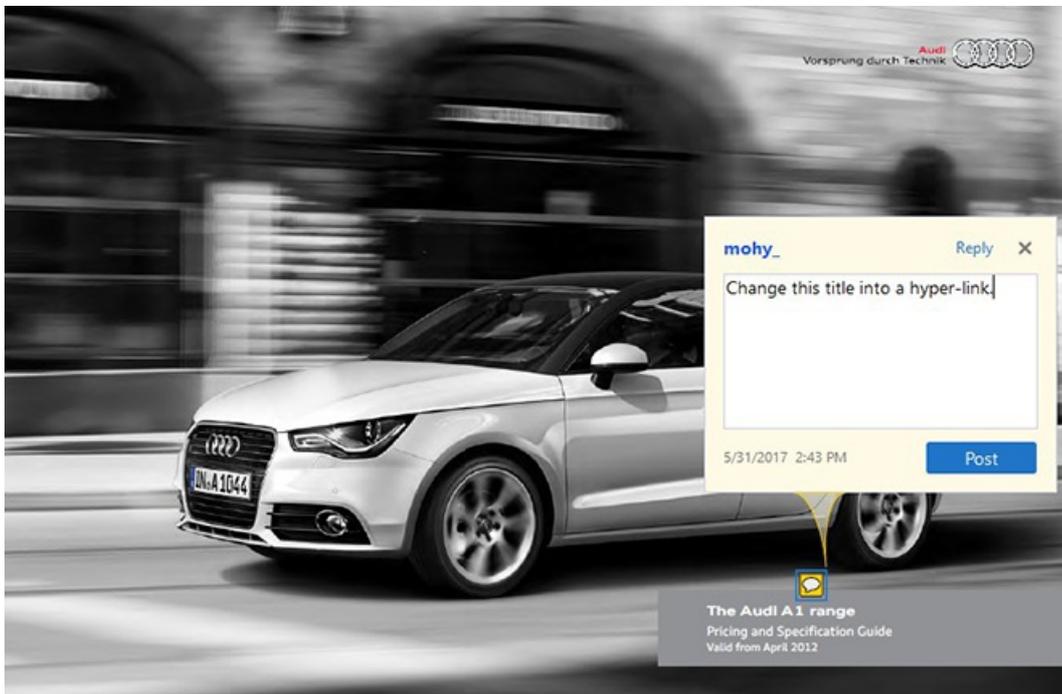
We'll guide you through the five steps you need to follow to convert any PDF manuscript into a highly-engaging interactive ebook. If you're not sure whether your ebook should be an EPUB or PDF, you should give this handy article a read: [EPUB vs PDF: The Battle of the Formats](#)

Step 1: Analyze the PDF

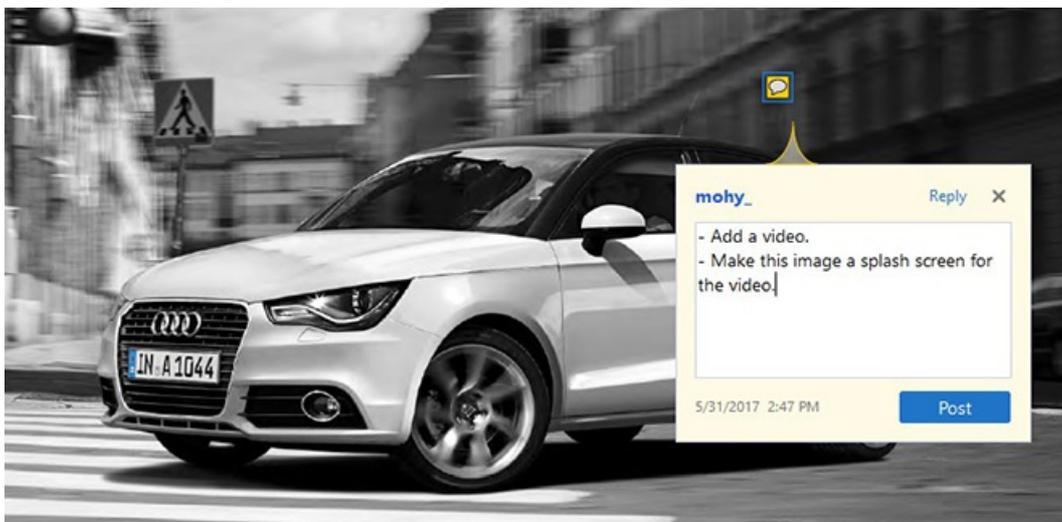
You need to spend a bit of time thinking through which elements of your PDF you want to convert into interactive components. Although this can be done with the help of an instructional designer, it can also just as well be done on your own – and this might be particularly helpful if you're on a tight budget or you're a start-up. This initial step acts as a planning stage, so that you have an outline, right from the beginning, of which parts are going to be interactive, and which parts are going to remain relatively simple text or images.

At this point, it is also wise to bear in mind just how far you want to go with the interactivity – although it's as well to remember that the simpler the better. You can go straight through to the PDF editor to add comments and highlight the elements you want to change and make the ebook as effectively interactive as possible.

This can happen in multiple ways as well – and when it comes to interactivity, if you do it right, the ebook world really is your oyster. It can be something as simple as changing some text into a hyperlink that can pop up when the reader clicks on the hyperlink text.



It can also be a link up with a video. With the video element, you can add a splash screen as well, to highlight that the video is loading (which basically highlights the interactive element of the image). You also have the option to add in a questionnaire that readers can answer as they're reading the ebook, and gives them the element of really working with the ebook rather than just reading.



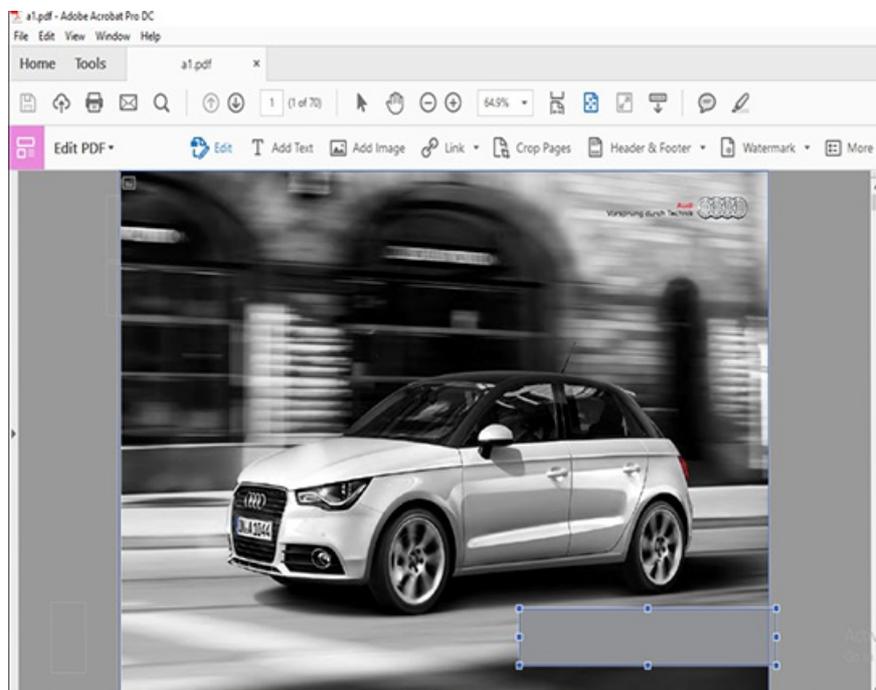
Just remember that it's best to focus on the most important interactive elements and that you should keep sight of what information is the most important to highlight.

Step 2: Editing the PDF's content

There's nothing like giving your potential ebook a quick one over, as much for spelling and grammar as for layout purposes. There are several versions of editing software that you can use to access and edit PDF content, including [Adobe Acrobat Pro DC](#), [PDFescape](#) or [PDF Pro](#), to name a few.

At this stage, you can go about normal editing processes, removing text, adding text and changing images. Because you may also want to be creating an interactive ebook, this is the stage where you can add hyperlinks that will take the reader through to more details.

This can include hyperlinks to videos, audio files, other websites or potentially other chapters in your future ebook. You can also alter the way images are viewed, and instead, insert either moving images or image galleries that readers can swipe and view. Use a free editor to customize the contents of the visual PDF.



The best software for working with images is Adobe Photoshop, simply because there are all the tools you need to work on images (including creating galleries) in one place. Having the PDF editing tools open means you can shift the page content around to create more free space, adding in items such as galleries, moving images and surveys at a later stage.

A1 Editions

In addition to Sport model equipment
Available on A1 3-door only

Basic RRP	£1,125.00
Total RRP inc VAT	£1,350.00

Contrast Edition
Contrast Edition is a subtle way to add style and individuality to your A1. The sport exterior body styling package is enhanced with a contrasting coloured roof line, front spoiler lip and side skirts. This sophisticated design is an understated way to set your A1 apart.

Wheels
17" x 7.5J 5-spoke design bi-colour alloy wheels, with 215/40 R17 tyres

Exterior equipment
Exterior styling package in contrast colour:

- Front spoiler
- Side skirts
- Rear diffuser in gloss black
- Roof contrast line

Front spoiler lip in contrast colour

Roof contrast line

17" x 7.5J 5-spoke design bi-colour alloy wheels

18 RRP - Recommended Retail Price. VAT is calculated at 20% but this may differ to reflect any change in the applicable VAT rate.

comment from mohy_: Add a survey in this empty space. 5/31/2017 2:49 PM Post

Step 3: Import into conversion software

The next step on the way to converting your PDF into an EPUB is by importing it into an authoring tool. There are, of course, numerous authoring tools online that you can use to turn your PDF into a beautiful ebook.

These include [Kotobee Author](#), as well as [iBooks Author](#) specifically for ebooks viewable via Apple devices. For more solutions on PDF to EPUB converting software, you can [click here](#) and play around with the options available. However, for this tutorial, we'll be using Kotobee Author and we'd advise you to do the same. Why? Because it's free and if you have any problems, you'll be able to ask us for help!

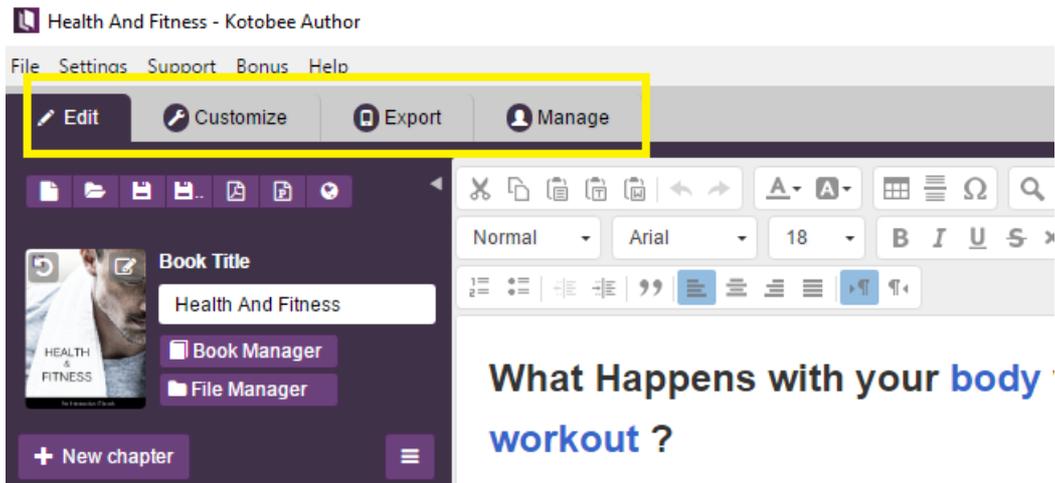


Conversion software allows you not only to actually create and publish your ebook, but also to manage it. This step essentially gives you space to:

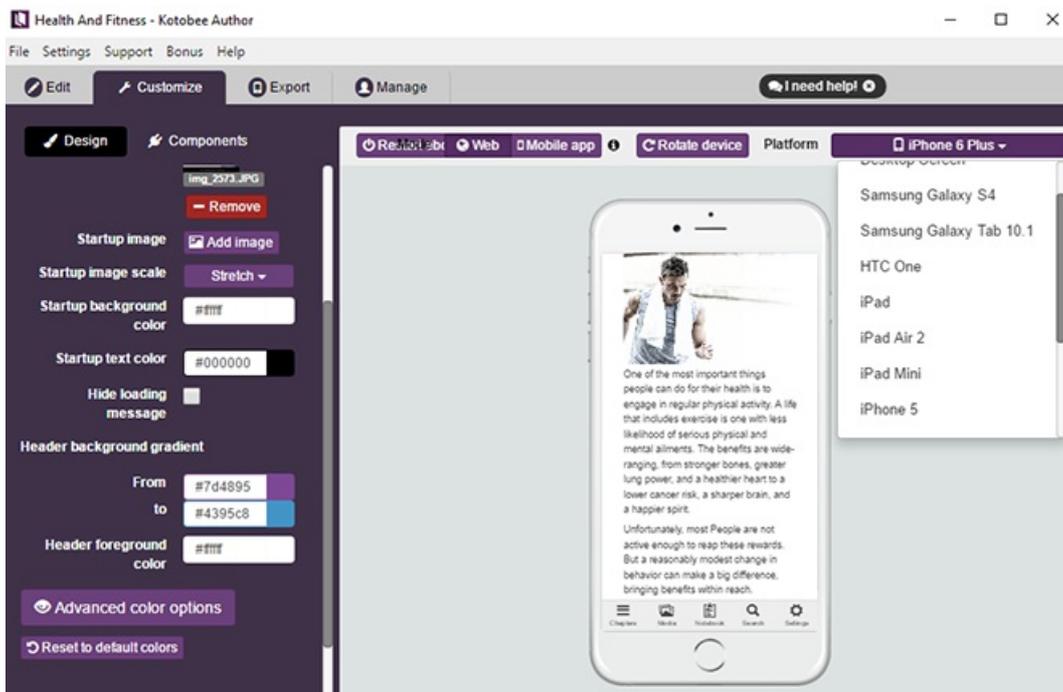
1. Define the design and layout of each page;
2. Alter the colour scheme and fonts;
3. Determine where each element of the page goes;
4. Decide how much space each element will take up on the page;
5. Figure out what buttons are included where on the page and how they'll look;
6. And start to add in all the interactive elements you want before exporting to the different formats you need.

As the above points suggest, the software ensures you can customize the look and feel of your ebook and preview how it will appear via different screens. It's the most basic of editing tools (and we'll get to some of the finer points of the editing and adding in the interactivity in the next point).

If you're using a software like Kotobee Author, you'll find yourself faced with four panels within the software that allow you to edit, customize, export and manage the PDF to EPUB conversion. As you've already edited your PDF, you can simply drag and import the draft document into the software which will create a series of image scans of each page, with each page divided into a separate chapter.



By clicking on the "Preview Mode", you can see how readers will view, interact with and use the finished page and see depending on the device they use. The "Customize" icon also allows you to enable or disable any of the components within the ereaders, such as Wikipedia or Google look-up features, as well as the book cover, the design and elements of the loading page, and so on.



An added point to bear in mind here is that when PDF have been converted into EPUB files there will sometimes be stray numbers or letters. This happens simply because some PDFs have hidden layers with extra information couched within them, such as line numbers. These can affect how "clean" the final EPUB will look – but they can also quite easily be cleaned up.

Some conversion software programs, such as Calibre, have a feature in the "Convert books" section that allows you to "Search and Replace" these stray items. Unfortunately, it will involve a little bit of code, but it's easy enough to get the hang of once you know what you're looking for.

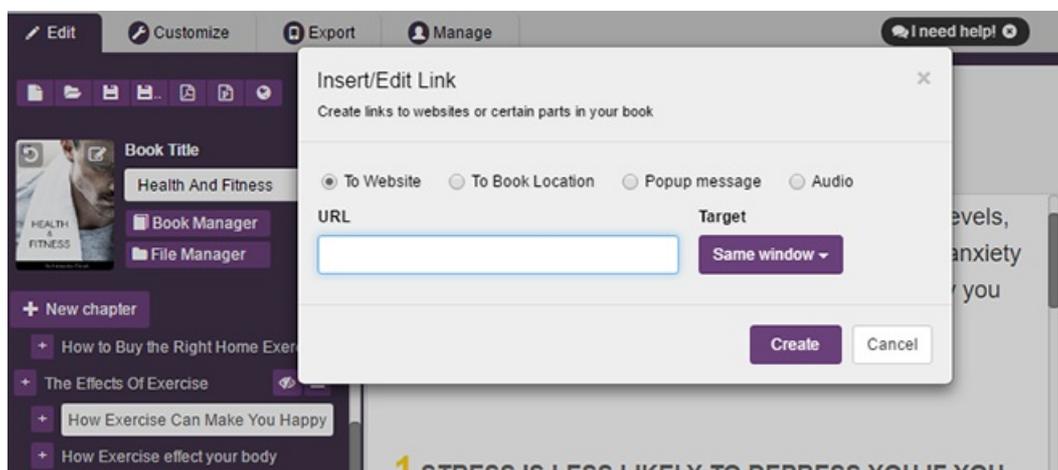
After you have selected the input and output formats, click on the wizard button to bring up a separate text box that will show you what the PDF looks like before conversion. At various points in the text, you should see the code `
`, which is just the CSS pointer for a link break. To remove the numbers and the break, simply type in `ld+
n`. With this, not only will you remove all the stray digits that will suddenly have appeared in your ebook, but you'll also remove all the unnecessary breaks in the line. However, it is important to realize that this only really works in novels and fiction books, where the use of numbers may not occur that often.

Step 4: Add interactive elements

The software's "Edit" icon becomes your best friend at this point, as this is the function you will use to add in the interactive elements to the ebook. This is where you'll be able to start adding in items such as video and audio files, hyperlinks, questionnaires and moving images that will add to the ebook.

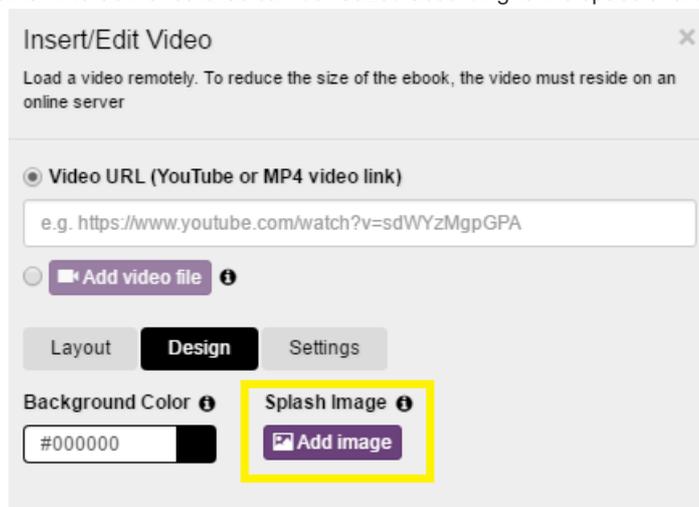
As an example, if you want to add a hyperlink to a specific page, you will need to go through to the chapter the page has now become. You then need to click on the text icon, which will create a text box feature for you to add in the text you wish. To add the interactive element via the hyperlink, simply highlight the text, and click on the "Link" icon, which will allow you to link the text in four different ways:

1. If you are adding in a website URL, click on the "To Website" feature and paste the web address;
2. If you want to hyperlink a book location, click on the "To Book Location" feature and scroll to the appropriate Chapter number;
3. If you want to create a pop-up message, click on the "Pop-Up Message" feature and add in the text into the text box;
4. If you want to add in an audio file, click on the "Audio" feature and either add in the audio URL if it's on another website or separately upload the audio file (which is best as an MP3). Note that the first option requires internet connectivity while the second increases the ebook size.

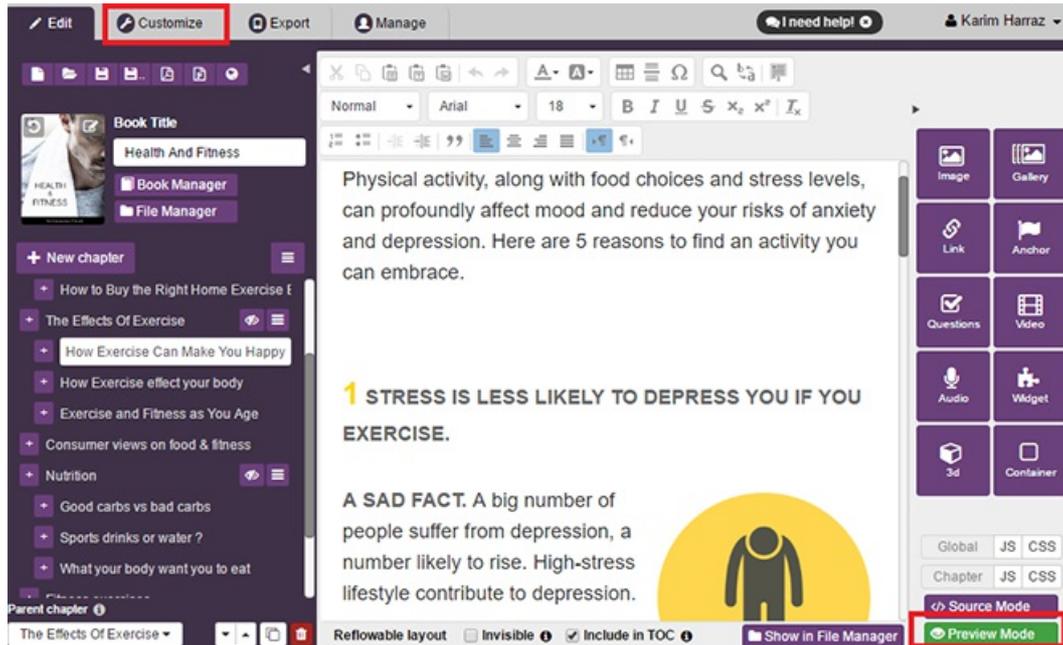


Other features include defining how users can interact with questionnaires and how they receive the answers to these. You can also start to create splash images, that act as hotspots on the page, and highlight to readers that they have now come to a viewable audio or video link.

To create a splash image for a video, you can simply go to the "Insert/Edit Video" icon, add the video URL or upload the video, and upload an image via the "Splash Image" upload button. In the finished interactive ebook, a "Play" button will appear overlaid on the image that will highlight that will highlight to readers that they can click and play a video feature. Again, the final block for such features as videos and other interactive features can be resized according to the space available on the page.



As with other software of this type, you can preview what the finished page will look like at each step of the way. This can be done simply by going to the "Preview Mode", which will allow you to use the page in the same way as the reader will see and use it. This is an important function to bear in mind, as it will illustrate to you just how well the PDF and interactive design have converted into the final product, for that particular page. To get a preview of the entire book, just click on the "Customize" tab.



Step 5: Export to multiple formats

Exporting the converted PDF can take place in several different formats, which will affect the type of file that your readers will end up. These formats include:

1. Standard EPUB files (which can be read by any EPUB reader);
2. Encrypted EPUB files;
3. Kindle files;
4. And Microsoft Word documents.

The conversion tool also allows you to pick out several other formats, including:

1. Converting the finished file into a Web App, which produces an HTML5 file that can be uploaded onto your website;
2. Converting to a Desktop or Mobile App (which will end up as a Native Mobile app viewable via Android, IOS or Windows devices) and which will only be viewable via that particular device;
3. Integration into a [Learning Management System](#) (LMS) via a [SCORM](#) file;
4. Online Hosting, where you will be given a URL that can be given to readers so they can access your ebook online via the link.

EPUB

EPUB is the official ebook standard used by many softwares and devices. EPUB 3.0 is the latest IDPF approved standard

Remove scripting ⓘ

Optimize ⓘ

 Create

EPUB Encrypted

Secure your EPUB with an encryption password that is required to open the ebook. The EPUB file can only be read using the [Kotobee Reader app](#) available on mobile and desktop

Encryption password

Optimize ⓘ

 Create

Word Doc

Export to Microsoft Word, to apply edits easily through Microsoft's powerful capabilities. Publishing to this format will remove all interactive elements in the book

 Create

Windows

Create a .exe file (along with a few necessary library files) that will be easy to run by anyone on a Windows machine

 Windows icon (optional) ⓘ

System type

 Create

Kindle

Kindle relies on the Mobipocket (.mobi) format, which is based on the Open eBook standard. Use this format if you are targeting Kindle devices

 [Kindle Publishing Guidelines](#)

Optimize ⓘ

 Create

PDF

Export your ebook as a standard PDF document. Publishing to this format will remove all interactive elements in the book

Delay ⓘ

Ignore errors

 Create

Macintosh

Create a .app bundle file containing your ebook application. Run by simply double-clicking the file on a Mac machine

 Mac icon (optional) ⓘ

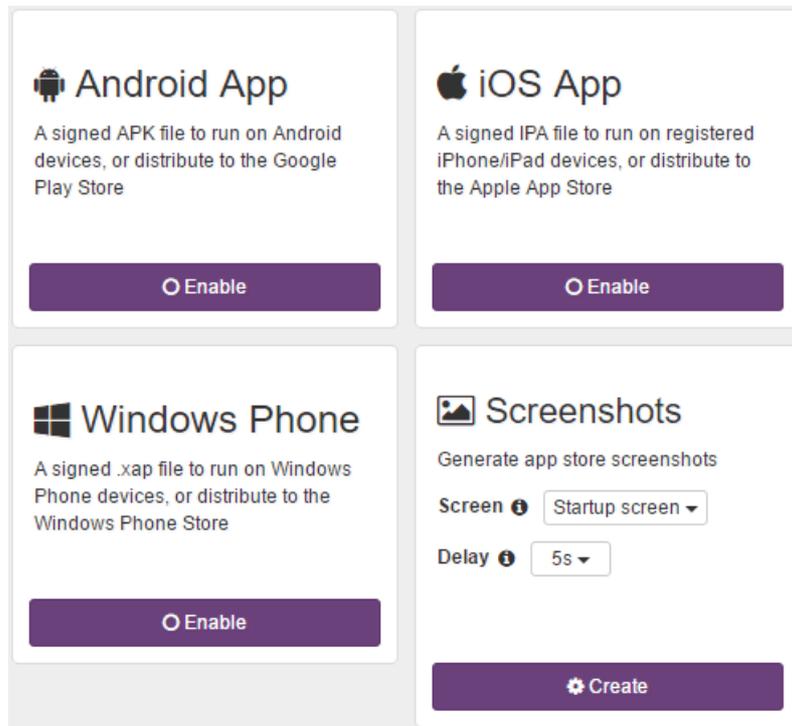
 Create

Chrome App

Create an unpackaged app that can be opened offline in Windows, Mac, or Linux within Google Chrome. Chrome apps are the only way to have an app installed on Chromebooks

Set description and version

 Create



With that, your interactive ebook is ready to use. There's also a "Library" feature, that allows you to create your own libraries. This allows readers to access the ebooks via your own branded library app that can also be exported as a native mobile app.

Each of the five steps is incredibly easy and simple to carry out. The key here is to plan out what it is you want to achieve through your ebook, and how you wish the interactivity to engage readers.

As ebooks are now a well-established part of the publishing field, you'll find your ability to create effective and usable books a great asset.

Adding Google Fonts to your EPUB

[Google Fonts](#) is probably the most popular free font library available today, giving you a selection of more than 800 font families to choose from. Although most ebook readers force the option of changing the font type, to provide user comfort and convenience, some readers don't. As the author, you may want to use your own selected fonts as headings in the ebook, or even for the whole body of text.



Theoretically, fonts can be embedded inside your EPUB, or accessed remotely from Google's servers. In the real world, every reader has its own policies and rules, prohibiting certain stuff. The EPUB standard however, permits loading fonts online and applying them in the chapter. The [EPUB specification](#) leaves little room for ambiguity on this topic.

Online fonts

The main advantage of online fonts is that it will not increase your ebook file size. The font will be fetched from Google's servers only once the user opens a chapter that uses that font. Although this may sound desirable, there are two big disadvantages. Firstly, your user needs to be connected online to use this font. As mentioned, each ebook reader has its own policies, and may prohibit downloading files to the ebook. Secondly, there will be a short delay between downloading the font and applying it to the appropriate text. This short delay may cause a flicker, where the correct font replaces a default one. Although not a big deal to many, the flicker may make the ebook seem "unprofessional".

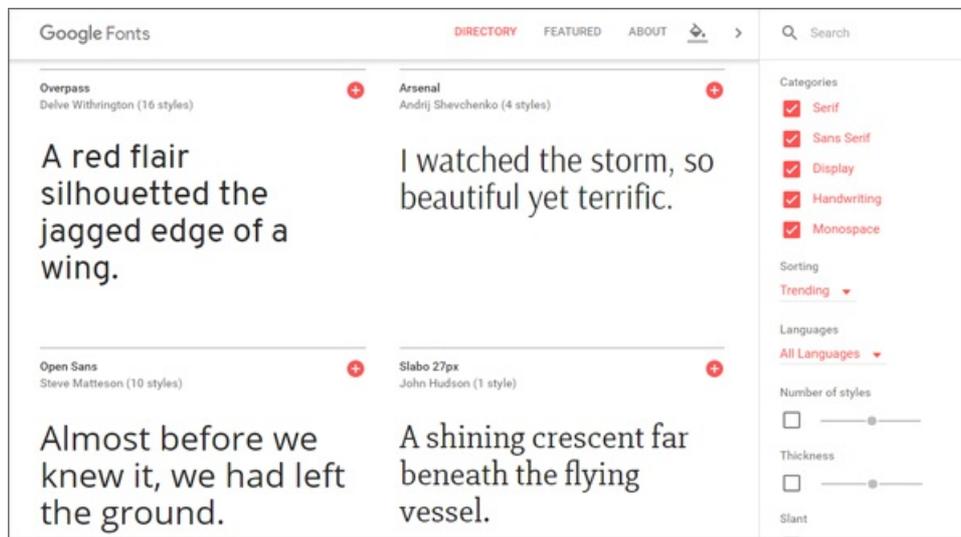
Embedded fonts

Embedded fonts are the way to go if you are aiming to have your ebook available offline, without any reliance on internet connectivity. The only disadvantage is that since ebook files will be part of the EPUB, the file size may increase slightly. Of course, it may increase significantly if you are using a large number of fonts.

Step-by-step tutorial

In this tutorial we will use Google Fonts as an example, to apply online fonts to our EPUB. Note however, you are not strictly tied to it. You can apply the same concept to any font file(s) you download from the Internet.

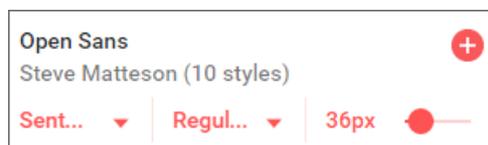
1. Open <http://fonts.google.com> in your browser



You will see a listing of different fonts along with an editable preview of each. You can browse around to find the font you need, or you can filter by certain criteria in the right panel. If you already know the font name, you can simply search for it from the top right corner.

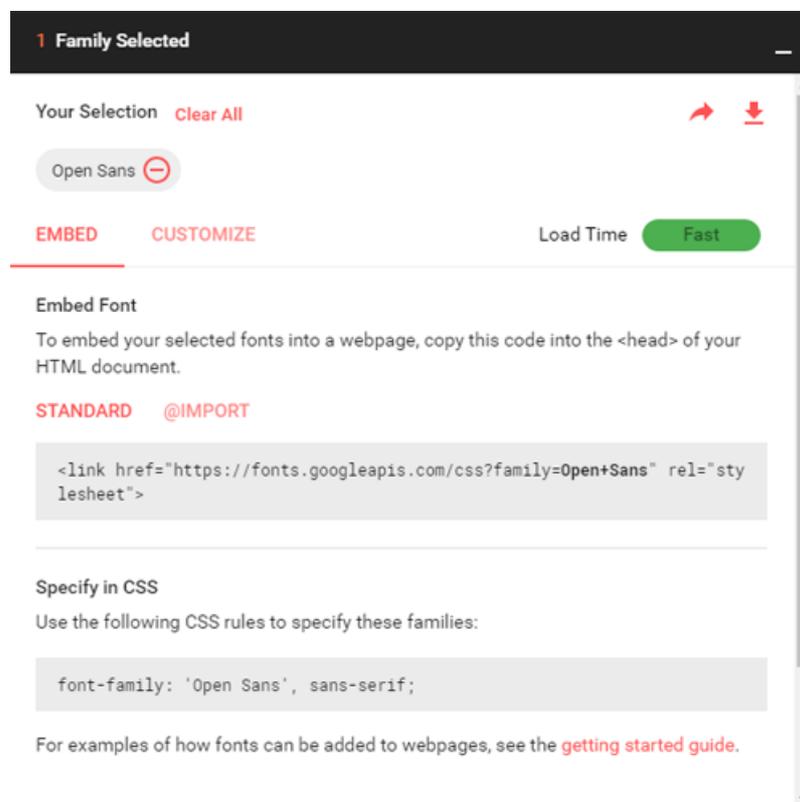
2. Select the appropriate font

Click the red + icon for the font of your choice. Note that you can select multiple fonts.



3. Export the font

Once you have selected any font, you will find a new bar appearing at the bottom of the page, labeled "1 Family Selected". If you have selected more than one font, then it will indicate the number of fonts. Click on the bar, to open the font export panel.



This panel basically contains everything you need - Google is very friendly with instructions. But to simplify things further for you, there are two items which you need from this panel. The first is the link HTML code, that you will insert inside your chapter's <head> tag. This will reference the font files from Google's servers. The second thing is the correct CSS font name for this font family.

Specify in CSS

Use the following CSS rules to specify these families:

```
font-family: 'Open Sans', sans-serif;
```

4. Apply the font CSS to your chapter

Using your favorite EPUB editor, you should add the link HTML code inside the chapter's <head> tag. Now depending on what you want the font applied to, you will be adding different CSS. The EPUB editor should provide you with a way to enter custom CSS. If you want to apply the font to the entire body of text, then you will assign the CSS properties to the body tag as follows:

```
body {  
  font-family: 'Open Sans', sans-serif;  
}
```

If you would like to apply it to Headings (first and second level), then it will look like:

```
h1, h2 {  
  font-family: 'Open Sans', sans-serif;  
}
```

You can assign the font to selected sections of your text. You can do this using CSS classes. So your HTML would look like:

```
<p>This is a sentence in standard font</p>  
<p class="special">This will be in special font</p>
```

And the appropriate CSS would look like:

```
.special {  
  font-family: 'Open Sans', sans-serif;  
}
```

Having your fonts offline

The basic idea is to download the fonts to your computer, and embed them inside the EPUB. This is what you aim to achieve. Every EPUB editor has its own details around doing this. In [Kotobee Author](#), the File Manager allows you to see the internal structure of the EPUB archive (for a good understanding of the EPUB file structure, this is a recommended read: [Alice in EPUB-Land](#)). The File Manager will give you the flexibility of adding your own font files into your EPUB, and then reference them from the chapter.

For more specific steps on doing this in Kotobee Author, please refer to [this tutorial](#).

How to Edit EPUB Books Manually



At one time or another, you may find yourself cornered into modifying EPUB files manually. This may be the result of certain validation errors that can't be fixed using your favourite authoring software. In those cases, it's best to work at the low-level and get your hands dirty, but nothing to fear. You can wash your hands afterwards.

Our experience with [Kotobee](#) showed us many forms of validation errors that are nearly impossible to correct using a software. No matter how much effort we put into [Kotobee Author](#) development, there are types of errors that are inevitable. Those errors originate from the user. For example, those who create their ebook by copying and pasting from their external PDF sources, can send along with their content a number of hidden meaningless characters, invisible to the eye, but visible (and prohibited) to the EPUB validator. That is a problem.

In this brief chapter, we will explain step by step how to accomplish a few goals, by editing an EPUB file ourselves. If you are not yet very familiar with the EPUB format, a strongly recommended read is [Alice in EPUB-land: Understanding the EPUB Format](#).

The basics

Just to recap, an EPUB file is a compressed [ZIP archive file](#). Nothing more nothing less. Let's go over a few simple operations:

Extracting content

To extra the contents, rename the extension to `.zip`. Use any Zip extraction tool, and grab the files inside the folder. I personally use [WinRAR](#), allowing me to right-click on the file and choose *Extract to 'folder name'*.

Compressing back

After completing your edits, select all the files at the root level (that you have extracted), and compress them back into a `.zip` file. On Windows, this can be done by right-clicking, and from the Context menu select *Send to > Compressed (zipped) folder*. Rename the extension to `.epub`.

Important files

The most important file you should be after is the *package* file, which describes the entire book. The package file not have a fixed location. Its location is rather indicated inside the `container.xml` file, which you'll find inside the `META-INF` folder. As a reminder, for further understanding of the EPUB anatomy, this is a recommended read: [Alice in EPUB-land: Understanding the EPUB Format](#).

The following actions steps all require that you have the package file open in front of you, using any text editor. I prefer [Notepad++](#).

Editing chapter content

1. From the package file, search for `<manifest>`.
2. Directly under it you will see a long list of items, all the way until the closing tag `</manifest>`. This is an index of all the assets (chapters, images) existing inside the EPUB. The path to each asset is explicitly defined.
3. To distinguish chapters from the other types of assets, chapters have a `media-type` value of `"application/xhtml+xml"`.
4. There isn't a way to preview the content (or even title) of each chapter unless you open it. So use the path defined for each chapter item, and open the document in your text editor.
5. Apply the edits you need. Once you're done, simply save. That's all there is to it!

Adding/removing chapters

1. From the package file, search for `<spine>`.
2. The list found underneath (all the way until the closing tag `</spine>`) define the navigation order of chapters. Each item is a chapter by itself. The `idref` attribute defines the ID of the chapter, which links to a unique item in the manifest list through its `id` attribute.

```
<item id="sxyoj0.html" href="xhtml/sxyoj0.html" properties="scripted" media-type="application/xhtml+xml" />
<item id="saitg1.html" href="xhtml/saitg1.html" properties="scripted" media-type="application/xhtml+xml" />
<item id="si6enb.html" href="xhtml/sj6enb.html" properties="scripted" media-type="application/xhtml+xml" />
<item id="st3uzl.html" href="xhtml/st3uzl.html" properties="scripted" media-type="application/xhtml+xml" />
<item id="syxqba.html" href="xhtml/syxqba.html" properties="scripted" media-type="application/xhtml+xml" />
<item id="stthdo.html" href="xhtml/stthdo.html" properties="scripted" media-type="application/xhtml+xml" />
<item id="sjjyc2.html" href="xhtml/sjjyc2.html" properties="scripted" media-type="application/xhtml+xml" />
<item id="shoswb.html" href="xhtml/shoswb.html" properties="scripted" media-type="application/xhtml+xml" />
<item id="sjt7nf.html" href="xhtml/sjt7nf.html" properties="scripted" media-type="application/xhtml+xml" />

</manifest>

<spine>
  <itemref idref="s42jnc.html" />
  <itemref idref="sn2cox.html" />
  <itemref idref="s83t21.html" />
  <itemref idref="sxyoj0.html" />
  <itemref idref="saitg1.html" />
  <itemref idref="si6enb.html" />
  <itemref idref="st3uzl.html" />
  <itemref idref="syxqba.html" />
  <itemref idref="stthdo.html" />
  <itemref idref="sjjyc2.html" />
</spine>
```

Removing a chapter

- Find the chapter that you want to remove. Finding it will require you to open them one by one, as the package file does not describe the content. But the order in the spine should give you a hint. If the chapter is one

of the last chapters, then look near the bottom of the spine list. You get the point.

- You will need to remove: the document file, the spine item, and the manifest item. Missing any one of these will give you an EPUB validation check error.

Adding a chapter

- Create a new HTML file anywhere, preferably beside the other HTML files. To avoid basic errors, it's better to copy one of the existing chapters and modify it as needed.
- Inside the package file, under the manifest list, add a new item similar to any of the other existing chapters in the list (the order does not matter). Enter the new path of the chapter into the href attribute. The path must be relative to the package file. Also, enter a unique ID to the id property.
- Under the spine list, add a new item as such: `<itemref idref="YOUR_UNIQUE_ID"/>`. Here order does matter. So make sure you've placed it before and after the appropriate items.

Editing properties

Each asset inside the book can have one or more properties assigned to describe it. For example, you can assign a `cover-image` property to an image, to indicate it's the book cover. Or you can assign `nav` to an HTML document to indicate it's the table of contents. For a list of all supported properties, [click here](#).

1. From the package file, search for `<manifest>`.
2. From the item list underneath, search for the item in question.
3. If the item does not have a properties attribute, you can add one, as follows:

```
<item id="chapter1.html" href="xhtml/ch1.html" properties="YOUR_PROPERTY" media-type="application/xhtml+xml"/>
```

4. If the properties attribute exists, add your property name to the existing one(s), separating it with a space.

Find a bad (hidden) character

If you get a complaint from the EPUB validation for an unsupported character, then most probably you have copied a bad (hidden) character from an external source. The EPUB validator should tell you the path to the specific file encountered. Here is an example of an error:

```
<message>RSC-016, FATAL, [Fatal Error while parsing file 'An invalid XML character (Unicode: 0x1f) was found in the element content of the document.'.], EPUB/xhtml/sppts.html (
```

1. Locate the file with the error.
2. Open it in Notepad++ (other advanced text-editors may work as well. But avoid the basic Windows Notepad).
3. In the menu, select `View > Show Symbol > Show All Characters`.
4. You will start seeing new symbols in the document, such as LF (line feed) and CR (carriage return). Don't worry, they are not a problem.
5. Scan around the document. You should see some strange symbol in the middle of the document, clearly in the wrong place.
6. Delete that symbol.

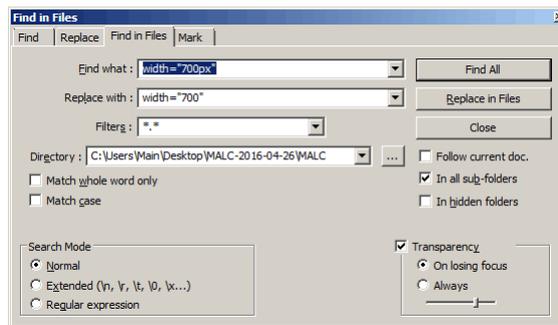


There's a high chance that this error was repeated elsewhere in your book. So you would want a certain process to remove all instances of that character in bulk. That brings us to the next section. Instead of deleting the strange symbol, copy it instead. Let's fight fire with fire.

Bulk edits

For books consisting of several dozen chapters, you would want a more automated way to apply your edits throughout the whole book. The popular *Find and Replace* function is just what you need. However, you'll need to use it in a tool that supports searching within folders instead of a single file. Again, this is where Notepad++ comes in handy.

1. Open Notepad++
2. From the menu, select `Search > Find in Files...`
3. Enter what you are searching for in the *Find what* field.
4. Enter what you want to replace it with in the *Replace with* field.
5. In the *Directory* field, paste the path to the extract EPUB folder. *Do not forget this step!*
You can go deeper than that if all the chapters are collected in a specific folder you know of.
6. **Warning: This is considered a dangerous operation, since it can change literally hundreds if not thousands of files without an undo operation.** Verify your entered values carefully. It is strongly recommended to click on *Find All* first, to make sure you're getting what you intended.
7. Click on *Replace in Files*. And you just saved yourself a day's worth of work!



You can use this technique to get rid of strange symbols scattered across multiple documents. Once you find the strange symbol, using the steps outlined in the previous section, copy the symbol to your clipboard. In the *Find what* field, you will need to paste it there. Nothing will appear as it is a hidden character. But trust me, it is there. That sneaky son of a glitch. In the *Replace with* field, leave that empty. And now you're set. Clicking on *Replace in Files*, will delete this character everywhere else in your EPUB.

Conclusion

Once you know the insides of an EPUB file, you will feel the capability of doing anything to it. You're not restricted to using a certain software, nor request over-valued ebook services, for what you would discover to be simple changes. Validation error messages are pretty much clear to indicate exactly what the problem is. From our side, we will continue to enhance our Kotobee Author, to ultimately find ways to catch and correct user-generated errors that are tricky and extremely difficult to catch otherwise. And three simple words before we close the curtains on this chapter...

Never underestimate Notepad++

Ebook DRM & Security: What is it and How it Works

Copyright and intellectual property protection has become a hot topic as our lives are lived ever increasingly online. The internet is a godsend for authors to get their work published and read, but it could also be a nightmare. [Digital Rights Management](#) (DRM) provides a form of digital content protection, set out by booksellers, in addition to traditional copyright laws to keep your intellectual rights intact.



Why DRM?

Authors have more opportunity to publish their work online, in the form of ebooks, and get read by a wider audience. Personal computers and handheld devices have also given easier access to ebooks.

However, the internet is hard to regulate, and unauthorised access to copyright material is easier. This means less control over your work once it's online, unless steps are taken to protect how and when ebooks are downloaded and by who. You can use DRM much as a security system protects a house, in that it's a protective barrier for your artistic property. It works in the same way as digital music and films are protected against file-sharing tools by their own forms of DRM.

A protective barrier

In a nutshell, DRM stops users from copying, printing and sharing ebooks – and protects revenues coming in from each sale. In the capitalist context, to protect sales and revenues, you need DRM to restrict how, when, and by whom the books are used, to make sure people keep buying the ebook!

The DRM can help your work in several other ways, including:

1. Controlling ebook distribution – Downloading and uploading works, accessing ebooks, lending ebooks out.
2. Once you've bought the ebook, it's tied to the buyer, with few sharing options.
3. Controlling how many devices you can download the ebook onto – most publishers allow a maximum of 6 devices.
4. DRM restricts, either totally or significantly, the copy-paste feature, so you have either little or no opportunity to lift text.

Which DRM to use?

There are currently 5 main formats of ebooks available: [EPUB](#), [KF8](#), [MOBI](#), [PDF](#), and [TPZ](#), with EPUB leading in popularity (here's an [easy understanding of the EPUB format](#)). What format the consumer gets depends on who you are buying the ebook from and the device you use to read it.

The four major ebook DRM schemes providing the majority of ebooks on sale are:

1. [Adobe's ADEPT](#) DRM – used with EPUBs (ebook file format) and PDFs. It can be accessed through 3rd party ebook readers and

[Adobe Digital Editions](#).

2. [Amazon's DRM](#) – The original Mobipocket encryption in adapted form and applied to its ebooks. Topaz goes by its own encryption system.
3. [Apple's FairPlay](#) DRM – As with all Apple technology, items downloaded via its software can only be accessed via Apple devices.
4. [Marlin](#) DRM – Developed by the Marlin Developer Community, a company founded by Intertrust, Panasonic, Sony, Phillips and Samsung – used by online textbook publisher KNO, and can be accessed via either iOS or Android systems.

Whilst Adobe's ADEPT is the default setting on most devices, Amazon DRM and Apple FairPlay are also common.

Who uses what?

Most websites who also sell ebooks will normally produce their own ereaders too. The way it then works out is that customers who buy ereaders from them are then obligated to buy their ebooks from the same website as well. From the authors' side, all he/she needs to do is submit the manuscript to the website, where the relevant DRM will be applied programmatically. The author does not need to do anything himself. Here's a low-down on who uses what type of DRM and how they work.



The retail giant locks all ebooks sold on its website to its [Kindle](#) devices or apps using its own DRM. When buying a book from Amazon, you're essentially buying the "license" to read the book. And to ensure the ebook is read only by the customer, the DRM code matches the Kindle device.



Like Amazon, Apple uses its own DRM system (called [Fairplay](#)) to items in its bookstore. And like Amazon too, Fairplay is incompatible with other devices or apps, unless the reader removes the DRM.



The largest distributor of indie ebooks, [Smashwords](#) doesn't actually use DRM at all. Instead, as the website says restriction-free ebooks enjoy bigger sales (as readers prefer the freedom), none of the books it sells are affected by DRM. Smashwords does write on its website that they "strictly discourage illegal pirating of an author's works".



Barnes and Noble's [Nook](#) ereader, which supports a form of Adobe Digital Edition (DE) DRM, uses an encryption key based on the customer's name and credit card number. In 2015, the way in which the encryption key is generated changed – although it is unclear how exactly the encryption takes place. It's very easy, though, to crack as the key can be found in NookStudy's log files (yes, it's right there in plain text!)



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Our very own [Kotobee platform](#) uses a different approach to the standard DRM. Using cloud technology, an ebook is encrypted with an encryption key, stored on a server, and unique for each user. Once the ebook is opened, the user will be asked for an email/password combination, or for a code. Authenticating correctly would retrieve the encryption key from the server, and decrypt the ebook content. What we see great about this approach is that it is not specific to a certain device model. Rather, this same DRM scheme can protect an ebook running on different devices and in different formats: web, mobile, or desktop. It cannot however be applied directly to standard ebook formats like EPUB or PDF. The ebook needs first to be turned into a cloud ebook app.

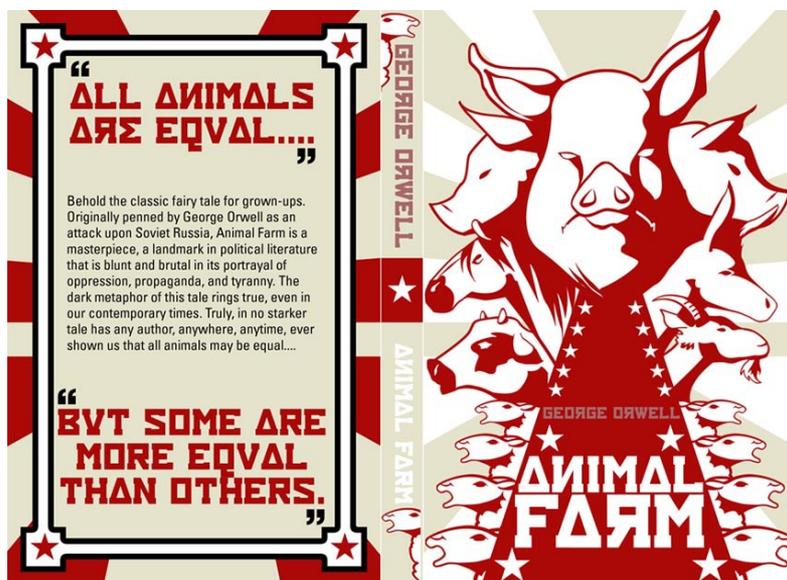
The pros and cons

It's hotly debated how effective DRM is – but there are several benefits for authors, publishers and booksellers. DRM means your work is protected against illegal copying or editing – and if this happens your right to take action is protected.

It also allows publishers to control what happens to the work after it's been published and released to the audience. Additionally, you can end up with what's called a "limited lending facility", allowing you to lend ebooks to a friend or relative – within reason.

On the other side of the argument, different devices may support the same [EPUB](#) format, but ebook sellers will use different DRM schemes when selling books. This difference may seem insignificant, but it does mean you won't be able to transfer your purchased ebooks to different devices. It means that, for sellers at least, the consumer gets only so many chances at using the ebook on devices, before they have to buy another version.

For example, if you have an ereader supporting Amazon's [MOBI](#) format, you still may not be able to download or open ebooks bought directly from the Amazon website. Instead, you have to buy an Amazon-specific device (such as a [Kindle](#)) or download an app to do this. It means that you may also have to download (and pay for) the same book again if you use a different device to read the same ebook.



Amazon itself also highlighted one of the many criticisms of DRM in 2009, [when it was criticised for playing "censor"](#). It had deleted [George Orwell's](#) books "1984" and "[Animal Farm](#)" remotely off devices, giving those who had purchased the books a refund in return.

This move earned the website the title of “big brother”, in the vein of Orwell himself, with commentators also criticising Amazon’s use of censorship at a distance. Although the website later argued it didn’t have the rights to sell those copies of Orwell’s texts, it highlighted the argument for DRM to be totally scrapped.

A further criticism of DRM is that if you switch to a different book store, you will no longer be able to access the book – which will also happen if the bookstore itself folds.

DRM for authors

It would help authors to consider several points before taking the plunge into e-publishing. These include:

- DRM schemes help you control your work’s distribution.
- You also know there’s a lower chance of piracy.
- As the main ebook sellers use DRM, your work is more accessible, but remains protected.

On the other hand, not all is good:

- If you’re just starting out, particularly as a self-publisher, you may need to go through smaller sellers. They might not have DRM schemes, and your work will have fewer readers.
- Many DRM codes that are stored on the device or ebook have been ‘cracked’, making this protection virtually worthless anyway. Hence, the third option of storing the code on the server itself making it virtually impossible to crack.

Alternatives

One recent alternative to DRM put forward is digital watermarking, which makes it easier to read and distribute ebooks. Because ebooks which fall under this alternative are not affected by DRM schemes, they are easier to copy and distribute.

The most famous example of this “social DRM” can be found with JK Rowling’s [Pottermore ebooks](#). Although it made them easier to pirate and upload elsewhere on the internet, the digital watermarks still showed the original owners of the pirated versions.



With all these pros and cons in mind, there is plenty for authors and publishers to consider before placing ebooks online. Although the books, themselves, remain protected and virtually piracy-free, it does mean greater restrictions for consumers and how these ebooks can be used. It may mean that DRM schemes and the way they work in terms of distribution and readability, rather than their ability to protect work, need to be revised to better suit our digital age.

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