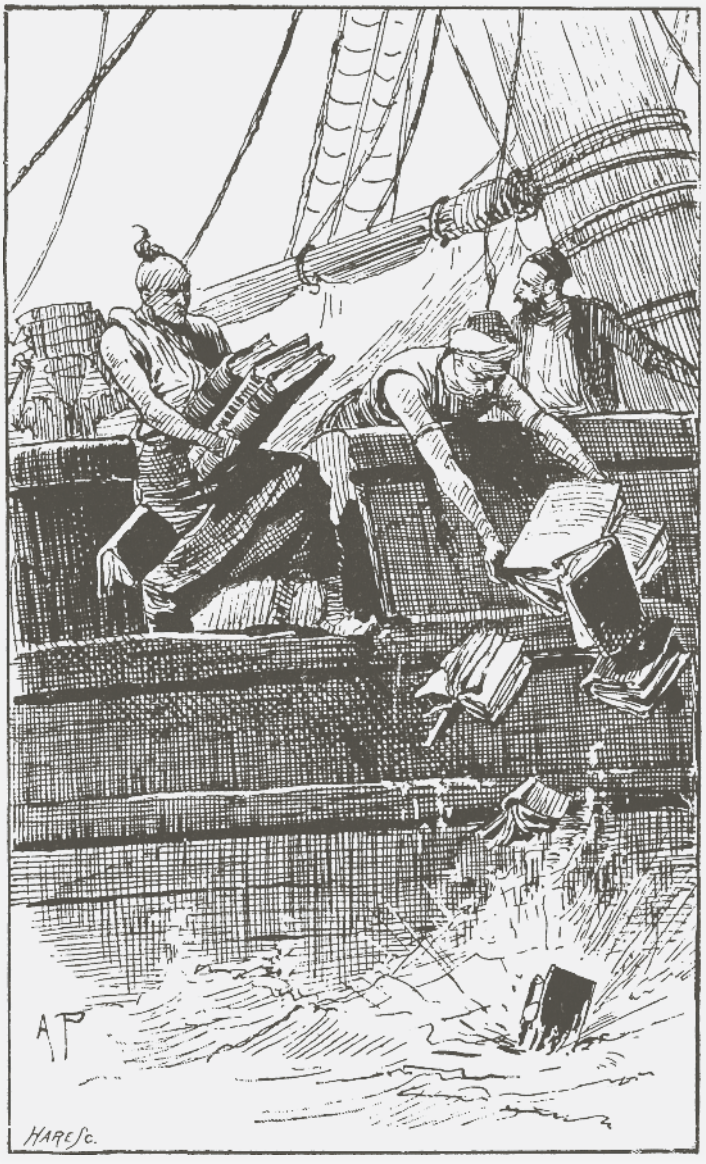
A RAY OF HOPE



It is a great pity that there should be
so many distinct enemies at work for
the destruction of literature,
and that they should so often be
allowed to work out their sad end.

William Blades,
The Enemies of Books
(London: Elliot Stock, 1888)
Internet Archive/Open Library
URL: http://openlibrary.org/

Digital Publishing Belongs to Everyone

Voyager Japan, Inc.

Masaaki Hagino, President

People have been suspicious of digital publishing for a long time now. I think that suspicion is reasonable. After all, digital publishing remains complicated and fraught with all kinds of hurdles, so readers have difficulty trying to comprehend just what it actually is. And yet, a world where most people are familiar with eBooks and digital publishing has clearly dawned. In the U.S., market penetration for eBooks grows at a steady pace; some are published in runs of one million copies. The population of eBook readers grew from 20% at the end of 2011 to 25% in only a few short months (according to BISG research). In fact, tablets have now supplanted dedicated eReaders, such as the Kindle, as the reading device of preference.

Although Japan has yet to reach this level, a public and private consortium has come together to promote a move towards electronic books. Combining public funds and investments from major publishing and printing companies, Digital Publishing Initiatives Japan Co., Ltd. has announced concrete plans to produce one million eBook titles within the next five years, generating a market with a proposed scale of 200 billion yen. The brave new world of digital publishing will soon arrive in Japan—and not at all too soon. Still, despite the promise, the growth and the hype, the future of eBooks and digital publishing is clouded. I strongly assert that digital publishing belongs to everyone. If so, how do we get there?

❖ eBooks: Brave New World or Survival of the Fittest?

In principle, digital publishing provides an individual with the power to take control of the entire publishing process from production to sales. This potential opens up a whole new world for both readers and future authors, who until now had no means available to carry out publishing. Yet there's a looming problem with all this. Potential creates opportunity. Once digital publishing becomes widespread, it truly will belong to everyone. Sadly, we're not thinking in those terms. We're locked into old modes of perception.

Twenty years ago, Voyager Japan entered the digital publishing business, releasing an eBook authoring tool—Expanded Book. We were not alone. Many Japanese companies were thinking about the same thing at that time. The idea was that any individual could have a means of self-publishing and be able to produce new content. This would then create new vistas.

At the same time, computer technology was advancing at a rapid pace. New levels of power were added at every step, and functionality was increasingly enhanced. In the world of digital publishing, with books as the stage, anyone could now strive to take the lead. By producing dazzling new functions, digital publishers could achieve more sales and attempt to dominate the market. This became the forerunner of what is now known as a "format war."

For device manufacturers, intensified competition generated a demand for higher performance at lower prices. As a result, they could no longer afford to supply content. To resolve this issue, many manufacturers formed partnerships with publishers and bookstores. Challenges and questions about how to produce new content quickly drew device makers and booksellers into struggles about the nature of reading itself and how to distribute eBooks. These questions and battles have persisted ever since, for over two decades.

By 2010, in the Japanese domestic market, companies were searching for methods to help them compete against the huge American firms that had pioneered eBooks and hence were in the lead. Many worried that foreign capital might enter Japanese publishing and buy everything up, siphoning off the

hard-won fruits of the market's growth. Only a partnership between the public and private sectors would provide the strength to compete. I believe these people had a good point. But what is this partnership for? Who does it serve? Is there any way this approach can be balanced with the idea that digital publishing belongs to everyone? And a larger question arises: are not those involved in a huge operation like this simply out to save their own skins?

❖ The "Wild West" of Digital Publishing

Brilliant, high-resolution screens, superior color, quick response time—digital publishing elevates the hopes and quickens the desire of all who participate. But these hopes are easily dashed by hard reality.

You can pick up a paper book and read it anytime you want. eBooks are far more complicated. Digital publishers have to adhere to strict rules in making a book for a particular reading system. These rules are exclusive and create barriers. An eBook made according to specified rules cannot be read on a different reading system. The world of electronic books is thus burdened by complexities and constraints.

With conventional books, once ink has been printed on paper, it remains there almost permanently. A paper book does not vanish so easily. For eBooks, this is not the case. The durability of a creative work is not guaranteed. The ongoing pressure of technological progress creates a situation in which material contained in a digital book may quickly disappear from the world as formats continue to change. From a traditional point of view, the very nature of a book offers this dual promise: if you want to read a particular title, you can easily obtain it and do so at any time you wish. In order for a book to be a book at all, it has to meet at least those two conditions. Unfortunately, digital publishing has fallen short in both areas.

Traditional publishers would laugh if they read this. If this is all eBooks amount to, no author should care how many are in circulation. Even if eBooks offer some fleeting, superficial convenience, the foundation of publishing will always be paper books. This point of view will not change quickly.

Idealistically speaking, before racing into market competition, digital publishers would have benefited from initially creating an electronic version of the traditional reading environment—that common asset of humankind left to us by our ancestors, the book—and establishing conditions to allow one to easily read an eBook any time one wants. But instead of working together to tackle this problem, we chip away at each other's strengths in an empty competition. So what can we do? A business owner with an eye to profit—much like a gunfighter bursting through the doors of a saloon in Dodge City—enters with a swagger. The world of digital publishing "is an area of lawlessness, so much so you could call it the Wild West." So says Dan Simon, publisher of Seven Stories Press, in an interview published in *American Editors* (http://tt2.me/13261). How can we make sure that electronic books will transform into something that belongs to everyone? I suggest we look to our past, reflect on where we've been and find a new way to proceed.

❖ Conundrum for Digital Publishers: How Do You Do What's Never Been Done Before?

Seeking out new means of expression, as well as accepting the challenge of doing something that has never been done before are both feelings I can understand. It's creative. But the means should always be as simple as possible. If it's simple, anyone can use it. Rather than running off in search of "possibility," we need to embrace practical reality, the obvious things we often take for granted.

Simplicity means voluntarily placing a limit on expressiveness. If the expression is too complicated, or relies too much on the newness of the technology, the eBook is not guaranteed to endure for very long. Products relying on new technology alone are highly susceptible to progress and change, so in the end nothing remains. To counter the tyranny of the "new," digital publishers need to foster an attitude that places priority on leaving a lasting record. By providing a rich and varied environment, we can allow anyone to easily create content in a way that preserves their creative work for future generations. For all of us in the industry, it's important to build on a firm foundation—to adopt an awareness that rather than eBooks being at the vanguard of technology, they should bring up the rear and become an instrument saturating every aspect of contemporary society.

Digital publishers must achieve these three important goals in the near future:

1. Guarantee of readability: eBooks should be readable on any device.
2. Standardization of format: digital publishing should be based on a common format.
3. Elimination of censorship: digital publishers should support the freedom to write and read any kind of book one wants.

New devices enter the market seemingly every month. But they disappear just as quickly. For those that survive, software upgrades are offered on a constant basis. One thing is eminently clear: reading applications and associated eBooks developed individually for particular devices have short life spans.

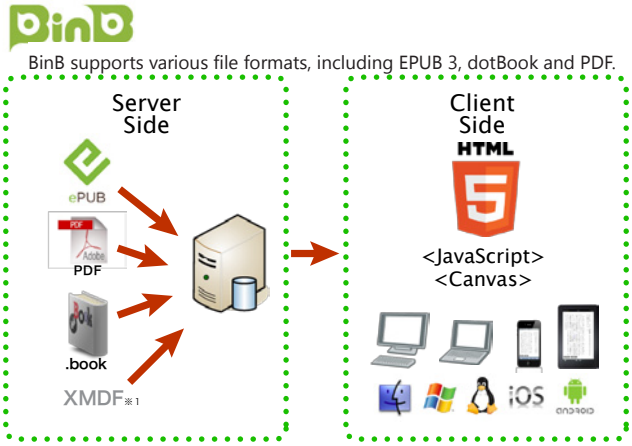
With support from digital bookstores, indie authors have begun to successfully archive their works. This photo was taken at Book Expo America 2012.

The guarantee of readability should be taken for granted. When one buys a print book at a bookstore, there are no conditions placed on the ability to read it, no concerns about which OS supports it and so on. Readers must be given the freedom to read whatever books they want to read. At Voyager Japan, we firmly believe in this principle. To deliver readability, Voyager Japan has developed and released "Books in Browsers" (BinB), a platform that allows you to read a book on a PC, tablet or smartphone using a Web browser. BinB is a reading system based on global standards such as HTML5, CSS, JavaScript and Canvas, all routinely supported by Web browsers. A BinB reader is available at: http://binb-store.com/.

For a long time now, dissemination of standards has been a thorny problem in the digital publishing industry. To ensure that an eBook can be read by as many people as possible, content suppliers need to publish each book in multiple formats. To promote sales and reach the widest possible audience, online bookstores have to offer software packages that include multiple readers for a myriad of formats. As a result, methods of viewing eBooks are in a state of confusion. Users are inconvenienced, uncertain of where to turn for help.

Meanwhile, the issue of censorship persists. Influential companies sometimes use their reputation to bring pressure on publishers. For instance, Apple has refused to sell an eBook about Steve Jobs they decided had "problems." To go along and stay afloat, digital distributors often participate in a kind of self-censorship. Without readers ever knowing, powerful parties with clout in the market exercise tight control over this well-ordered system.

Voyager Japan developed BinB based on its ideas for an independent "bookstore without a bookstore." BinB's eBooks live on the Internet, not in online bookstores. Readers can access and browse them at any time. If the reader likes a particular eBook, he may purchase it by clicking on a buy button. That's all it takes. There's no censorship. By using BinB, you can read eBooks not approved or condoned by Apple—even if you're using an iPhone or iPad. Readers have the freedom to enjoy books any way they want. For Voyager Japan, protecting this consumer right is of paramount importance.



XMDF utilizes results from the "Digital Book Exchange Format Standardizing Project" hosted by the Electronic Book Publishers Association of Japan (EBPAJ) in association with the Ministry of Internal Affairs and Communications.

We insist on our independence as a publisher, and we believe it's critical to oppose any tendencies in the industry that inhibit the independence of all publishers.

❖ EPUB: Tearing Down Barriers through Commonality

The International Digital Publishing Forum (IDPF), an organization similar to W3C, has developed a global standard for digital publishing called EPUB. The standards and rules established by EPUB ensure that eBooks created in this manner can be produced and read by readers around the world—just as Web pages can be read on Web browsers anywhere. Web browsers based on global standards make it possible for the user to access information at high speeds in disparate locations. We have become so used to this capability that we simply take it for granted, but the benefits cannot be overstated. We have the responsibility to achieve the same goal for digital publishing.

Japanese digital publishers need to tear down the barriers created by the outmoded formats we have developed, and integrate with a global standard such as EPUB. Since there are unique challenges in the digital rendering of Japanese, those with the most knowledge and experience in these matters should act as a bridge to the rest of the world. Bridge-building and problem-solving will have great significance as social capital and in turn will create something everyone can use, including future developers, authors, readers, even the pioneers of the industry in the U.S., and of course those who protect rights and interests.

The corporations, organizations and associations of the world that gather at the IDPF have spent years tackling the difficult problem of providing an eBook format anyone can use. The common format they have most recently developed is called EPUB 3. The IDPF is currently developing a reference implementation for digital publishers. The Readium project offers a concrete example of these efforts (http://readium.org/).

❖ Let's Play Monopoly

Just what is a book, really?

Think about it. Whether a book is made of paper or downloaded digitally, it won't do anything for you unless you read it. And even if you do that, it won't necessarily fulfill your needs.

In his book *Hon to iu fushigi* (The mystery of books), Hiroshi Osada writes, "It's not as if you could have someone read a book in your place when you don't have enough time. And you can't read a book while working, or while driving or watching TV. You won't fall asleep and then wake up later to find that you've finished reading. You have to give your time and attention to it or nothing happens."

Put a little distance between yourself and the world, come face to face with a book, and try understanding things on your own. The process of inquiry we call "reading" can leave us awestruck at how deeply it provides an opening into this living and breathing world. That's the magic of books. Books are written, read, and then left behind, where they lie waiting for the day when the next reader arrives on a new quest. A book is a simple thing—small, economical, yet infused with passion, heart and soul. A book is a very solid and tenacious medium. This is how I feel—and have always felt.

Yet I also believe that we're beginning to forget what books are all about. We need to do more than merely study the glorious history of books and publishing and marvel at how admirable it is. Over the past ten years, as we entered a new century, the world of books experienced maddening changes, and we have not fully grasped the difficulty of the road ahead. Books are likely to fall into a state of decline. Publishers will be engaged in a desperate struggle to maintain sales. Instances of confusion and panic will reign in the industry.

As publishers, how can we overcome these challenges, leap over these obstacles and return to our essence? The key is both new technology and a new philosophy. Though we are recent arrivals to the publishing world, Voyager Japan has envisioned this synergy for many years. Our appeals have been loud and persistent.

❖ It Really Hurts—But It Doesn't Have to

Everyone feels the pain.

That's why I am sending out this missive.

You should send one of your own, not just a tale of suffering...but a ray of hope.

The solitary voice of the minority can bear witness to any era, no matter how disruptive. In all likelihood, for digital publishing, the day will come when those once-lonely voices will be raised in concert, to be more clearly heard. If you're the kind of person who points fingers, who's tired of the whole sorry mess, or who is overly self-deprecating and inclined to stasis, then you should probably stay away from the world of eBooks and digital publishing. There are certainly more attractive options for you.

A book that's not currently selling may take off at some later point in time. An author who has only received middling praise from certain critics may attract greater and more positive attention down the road. Sales should never be the final arbiter of our decisions. Publishers truly have scant clues about what books readers will love and what titles will fall by the wayside. How books are rated and assessed has little to do with the caliber of their authors. Even a professional critic may not necessarily evaluate an author with any degree of accuracy. No one can see all the way through to a book's essence.

❖ Who Is Everyone?

We in the publishing industry had great hopes for eBooks. We had no idea there would be something about them that would become a hindrance, that would build obstacles to success. In some ways, this probably couldn't be avoided. When you are stuck in a fog, you have to find a path to go forward. It's no different for digital publishers. Where is our path?

I will state it again: digital publishing is for everyone.

In this case, "everyone" means the readers. I believe the ideal readers are the yet unknown authors of the future. Arguments surrounding businesses attempting to dominate the market will not provide you with the whole story of digital publishing. That's only part of it, a diversion.

To exercise control of the means of publication is to own the means of creating media. For authors and readers of the future alike, control of this new frontier can be gripped by their own hands. You could call this a kind of "land reform" for digital media. I hear this comparison often. First you have the soil from which works are created—the foundation for everything else. Let's say you're fully dedicated to a particular idea and made a wager on yourself to create and produce a book. Now there's a medium which can embrace that book. This is what's really important, and its significance cannot be overstated. One of the invaluable merits of publishing is to provide both authors and readers with great opportunities. If we can provide an environment that overcomes the need for experts and institutionalization, is lean and economical, places its bets on possibility over sales projections and is easy to use, newer and broader horizons will open up for the publishing world. Our goal for the future is self-evident: providing everyone with the capability to create—and to leave a lasting record of that effort.

Digital publishing belongs to everyone and is made by everyone. We must begin with the individual who stands alone and who goes off alone in search of everyone.

As digital publishing expands and becomes commonplace, many indie authors are taking advantage of this development. An attendee at Book Expo America 2012 peruses a stack of indie books.

Digital Publishing and the Web: A Pathway to the Future

Voyager Japan, Inc.

Toshiaki Koike, Project Manager

Digital Book 2012, sponsored by IDPF and held in June 2012 in New York. Digital publishers and developers from around the world introduced the latest trends in EPUB 3 at this event. Registered participants totaled more than 1,000.

The digital format provides us with power. We can be author, editor and publisher all at once, while also becoming one of the many readers who support this new world. However you look at it, we all play an essential role. Yet we first need to understand the landscape that surrounds us.

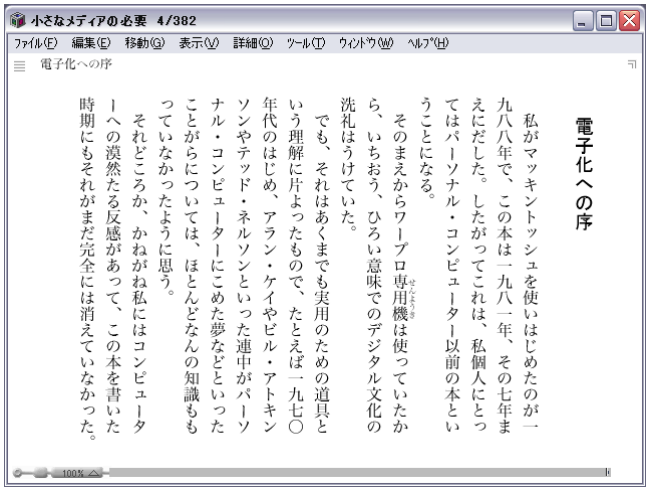
What is it that eBooks and digital publishing require? The list includes: a distribution format, a viewer to display content, a reading device, a Website where eBooks are sold, a bookshelf to store contents which have been purchased or are free of charge, references offering information, a means whereby readers can share their impressions or reviews of contents, and so on. These requirements can be met using a wide variety of technologies, all currently available. Voyager Japan has adopted the idea of placing the Web browser at the center as a means of providing these necessary functions.

Before we examine our proposed solution, let's journey back in time, to the dawn of digital publishing.

❖ Voyager Japan and Digital Publishing

In 1993, Voyager Japan released a tool called the "Expanded Book," thereby making our first foray into the digital publishing market. At that time, the term "electronic book" was barely known. Two years later, a new version of Expanded Book allowed publishers to digitally render Japanese, with vertical text layout capability, as well as functions for special Japanese characters and Japanese word wrapping. Not long after this release, Shinchosha Press marketed its CD-ROM *Shincho bunko no 100 satsu* (100 books selected from Shincho bunko), created using our tool. At that time, monitors were small compared to today's standards, with poor resolution and fixed layouts. Still, publishers considered this early title a piece of perfection.

As monitor displays increased over the years, reflow replaced a fixed layout, so that content could be adjusted as needed—depending on screen size. Reflow allows text that doesn't fit inside certain screens to be sent to the next page. At the same time, Japanese digital publishers sought the ability to read



An example of a display in dotBook for *Chisana media no hitsuyo* (The needs of independent media) (Kaitaro Tsuno). The layout is realized using reflow, while following Japanese typesetting rules regarding vertical text layout, captions, ruby, and Japanese word wrapping.

Web pages originally displayed horizontally on a Web browser in a vertical text layout. For this purpose, Voyager Japan released T-Time. The electronic book format used by the T-Time reader is dotBook (".book"). The dotBook format is extremely fastidious about typesetting rules.

❖ Typesetting Rules: Items Added and Items Discarded

When designing a Japanese book, typesetting rules are the arbiters of final layout. These rules determine a variety of layout issues: spacing between characters, spacing between lines, page margins, Japanese word wrap, etc. These items all assume a fixed paper page. In establishing our first specifications for eBooks using reflow, the question for Voyager Japan was how far to go in applying typesetting rules developed for print books. Voyager Japan experienced repeated failures in developing these specifications, learning by trial and error. As a result, highly precise typesetting (for example, character position by specifying pixel unit) can be realized in dotBook. From the beginning, our developers thought intensively about how to get as close to the paper page as possible.

As experiences accumulated over time, flexible layouts designed to look good on any size monitor became a more desirable goal. But this change in direction did not mean that typesetting rules were ignored for eBooks. Voyager Japan had to adjust some and discard others, focusing our efforts on the most optimal method for handling a large variety of page sizes. Current dotBook specifications are testimony to the great care we have taken in drawing up the most appropriate typesetting rules for eBooks using reflow type pagination.

❖ The Web and EPUB

Just what is EPUB? Definitions vary, but generally speaking, it's the file format standard promoted by the International Digital Publishing Forum (IDPF), an organization working to standardize eBooks. EPUB is based on XHTML, and packaged for download delivery so that content can be read offline on either a mobile device or a laptop. At the same time, EPUB retains the open characteristics of HTML and Web browser technology.

To sum up, an EPUB file is a zip file containing compressed Web content.

EPUB is a book, not a Web page. You read it by turning pages and reading one page at a time. There are things you can do on both a Web page and a book and things you can't do. Where does the boundary between these formats lie? How do you assess the differences between a Web browser and an EPUB reader?

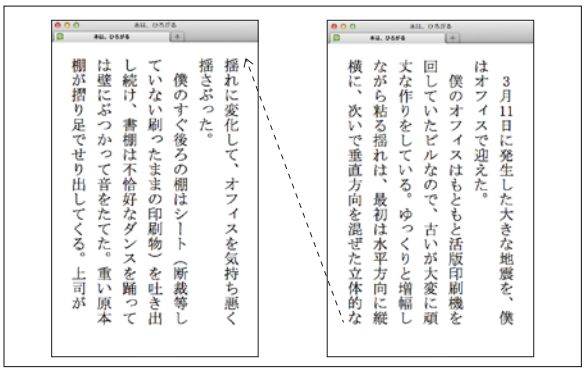
❖ Boundary 1: Scrolling and Pagination

Vertical scrolling is most commonly used on a Web browser and is an assumed characteristic when we design and build any Web page. In contrast, pagination is the norm for EPUB readers.

These differences—between scrolling display on a browser and pagination on an EPUB reader—make it easier to understand why Web capabilities and publishing capabilities should be considered separately.


震災の後に印刷屋が考えたこと

On the left, a Web page as seen on a Web browser. The assumption here is that the page will scroll vertically. The page can be displayed without the necessity of horizontal scrolling if a fixed width (or fixed margin) is maintained.


3月11日に発生した大きな地震を、僕はオフィスで迎えた。
僕のオフィスはもともと活版印刷機を回していたビルなので、古いが大変に頑丈な作りをしている。ゆっくりと増幅しながら粘る揺れは、最初は水平方向に縦横に、次いで垂直方向を混ぜた立体的な揺れに変化して、オフィスを気持ち悪く揺さぶった。
僕のすぐ後ろの棚はシート（断裁等していない刷ったままの印刷物）を吐き出し続け、書棚は不恰好なダンスを踊っては壁にぶつかって音をたてた。重い原本棚が摺り足でせり出してくる。上司が

In the case of an eBook, characters that don't fall within the range of the page are sent onto the next page. The example in the image above, from the *Magazine Ko* ("What printers thought about after the earthquake" by Adam Ari Furuta) is displayed in BinB.

People can view EPUB on a wide variety of platforms, offering different monitor sizes or window sizes. For this reason, a more appropriate tactic for developers is to provide a generous design (one offering some slack and that assumes reflow) and not be boxed into a particular target size.

The latest version of EPUB also can use Media Queries, so many of us agree that making the eBook reader capable of reading a different CSS for each screen size will in turn make it possible to design appropriately for each screen size. This solution represents an effective way of handling magazine style content and layout. However, some EPUB readers ignore styles used by Media Queries.

For a typical, text-centric book, digital publishers can obtain the best results by letting the EPUB reader produce the appropriate layout through reflow, rather than by making the design overly fixed.

❖ Boundary 2: Network Content and Local Content

In principle, unlike the Web, an EPUB reader can display only local content (i.e., content stored on a device such as a PC, smartphone or tablet).

In EPUB 3, JavaScript can also be used, making it possible to display dynamically-created content on a network. According to specifications, this can be done in an EPUB file. However, I do not recommend it and some EPUB 3 readers avoid interpreting JavaScript for security reasons.

If your intent is to display content on all types of EPUB 3 readers, it's best to avoid using dynamic display of network content using JavaScript.

❖ EPUB 3 Japanese Capability

EPUB 3 now supports Japanese, but what exactly does this mean? First of all, readers will see a page with vertical text layout which progresses from right to left. In addition, furigana (ruby annotation) are used, as well as circles for emphasis. Also, numbers appearing in the text are displayed horizontally within vertical text.

EPUB specifications follow three basic rules:

- Rules established as unique EPUB standards
- Rules as defined in HTML5 which are used in EPUB 3
- Rules as defined by CSS which are used in EPUB 3

Rules Established as Unique EPUB 3 Standards

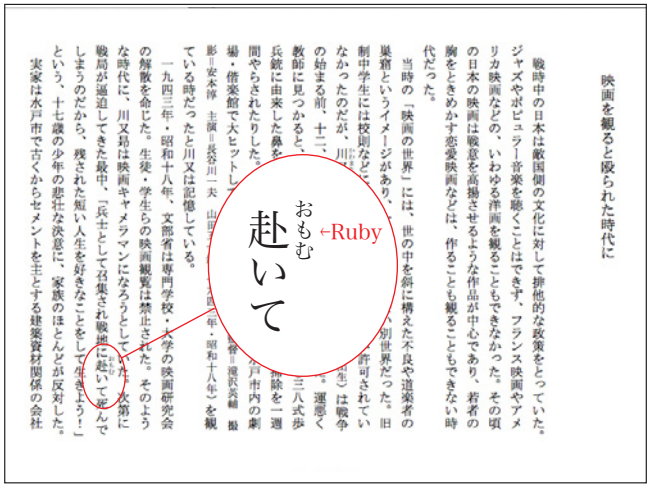
One representative example of unique EPUB 3 standards is specification of the direction of page progression, an important function required by Japanese language books. The following elements are defined in the EPUB package text file (OPF):

- Bibliographic Information
- Configuration File
- Configuration File Copy Sequence

The attribute page-progression-direction is provided in the definitions. Readers can select the setting value "rtl" (Right to Left) in order to set pages so that they progress from right to left for vertical text reading in Japanese language books.

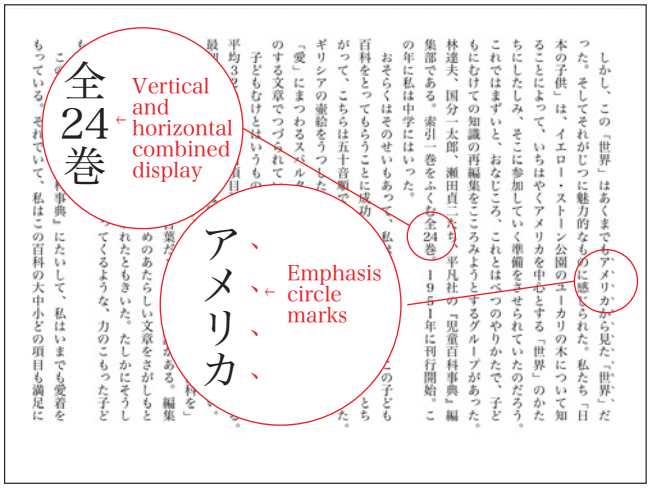
Rules as Defined in HTML5

EPUB realizes "ruby" script with use of the ruby component of HTML5. The code appears like this: <ruby>漢<rt>かん</rt>字<rt>じ</rt></ruby>



The example above left shows rendering of the ruby script in *Camera wo furimawashita otoko: satsuei kantoku Kawamata Takashi* (Kawamata Takashi: A man who moved camera) by Takehisa Kawashima.

Rules as Defined by CSS3



Example of vertical and horizontal combined display and emphasis circle marks in sesame dots style, from *Chisana media no hitsuyo* (The need for independent media) by Kaitaro Tsuno.

Most all of the characteristic expressions of the Japanese language are included in rules established by CSS3, and these same rules are used in EPUB 3. The CSS3 standard is still a working draft, but EPUB 3 stipulates these same rules to the extent currently possible.

- Vertical text is realized by using the property "writing-mode" in CSS Writing Mode Module Level 3. To use this mode in EPUB 3, a prefix is included in the signage and displayed thus: -epub-writing-mode. Vertical text is realized by specifying vertical-rl along with this value.
- A combination of vertical and horizontal text can be specified by placing a prefix on the CSS Writing Mode Module Level 3 property text-combine so that it looks like this: -epub-text-combine:horizontal.
- For the emphasis circle mark, the CSS Writing Mode Module Level 3 property text-emphasis-style is used. You can produce a black sesame dot by specifying -epub-text-combine:filled sesame.

❖ EPUB 3 and the Japanese Book: How Does It Look?

For digital publishers in Japan, the question remains: will Japanese language books using EPUB 3 create a valid product? What will these books look like? At Voyager Japan, we would love to provide an answer, but almost none of the EPUB readers currently prevalent in the market support EPUB 3 and cannot display it correctly. Unfortunately, only time will tell.

EPUB is packaged in a zip file. Unzipping the file reveals an HTML5 file. The HTML5 file can be opened using any browser, such as Safari or Google Chrome. By doing so, you can see that vertical text, ruby, vertical and horizontal combined text and so on are all displayed correctly. So what happens when you perform pagination? Is the direction of page-turning set correctly? At this time these components cannot be properly displayed on a Web browser. To resolve this issue, IDPF and other supporters initiated the Readium Project.

❖ The Readium Project

Revised specifications in EPUB 3 allowing for Japanese language support made this latest version a major upgrade for publishers in our country. Yet there's a major stumbling block to popularizing its use: there are currently no eBook readers that can correctly run or display EPUB 3.

Readium delivers a system for referencing the accuracy of EPUB 3 operation and display. Most importantly, Readium is open-source, so anyone can use it.

Currently, Readium developers are promoting its use as a Google Chrome extension. Voyager Japan is participating in

The Readium Project's Website (http://readium.org/). Development continues to move forward in an open environment, with persons involved in electronic publishing participating from around the world.

this project and hopes to contribute to the realization of a new environment for better electronic books, based on our long experience rendering Japanese language books through dotBook.

We have covered the basics of EPUB and Web browsers, as well as the factors that separate them. So how, at this moment in history, do digital publishers create content?

❖ What Is a Book and What Is the Web?

EBooks use Web technology, but they're not the Web. They're books. When creating an electronic book through EPUB, an important component becomes the question of distribution. To allow your audience to easily access content created for the Web, all a publisher needs to do is to release it on the Web. If one desires compensation for said contents, creating a members-only Web page is sufficient.

In actual fact, the EPUB Web application using HTML5 functions targets this capability. Web content rendered through Flash has moved in the same direction, despite the limitation of being unable to run on a proprietary iOS. EPUB is a book. eBooks created in the EPUB format can be distributed through any kind of online bookstore and can be sold anywhere in the world. This capability delivers a huge benefit to digital publishers. EPUB can change everything.

Currently, few online bookstores can handle EPUB 3, and specifications for submission of an EPUB book may differ from store to store during the early stages of its adoption. So rather than making a book optimized for one particular EPUB reader but which cannot be displayed on other reading systems, publishers need to maintain general versatility. At this watershed moment for digital publishing, eBook design should offer maximum flexibility, so many types of EPUB readers can display content properly. Books—whether paper or electronic—belong to everyone, to as many people as can find them and read them.

Voyager Japan has been working in two distribution arenas. We've developed BinB (Books in Browsers), a browser-based reading system independent of any one particular platform. And we're promoting content production on the Web that's largely free from format constraints—so it can be distributed anywhere. In the past, facing such constraints, Web developers had to write different code for each browser and even come up with complex code to avoid problems caused by browser bugs and specifications. For digital publishers, it would be madness to repeat this sorry saga.

❖ Producing EPUB 3 Books for Maximum Distribution: 4 Pointers

For digital publishers seeking to take advantage of EPUB 3, Voyager Japan believes there are four ways to increase distribution possibilities for your eBooks.

1. Don't specify style more than necessary

Many have heard the old adage, "separate structure from style." Structure refers to the various components which make up the textual structure, including titles, captions, and the main body of the text. Style refers to guidelines related to the decorative aspect of the book—i.e., how one goes about displaying these structural components.

For EPUB, textual structure is defined in HTML5; style is handled by CSS. As noted earlier, CSS3 is used to specify the means of rendering Japanese language books using vertical text, including components such as vertical text, combination vertical and horizontal text, and emphasis circle mark. Unless these components are specified by developers, a vertical text design cannot be achieved. Other elements of style, such as background color (white) or font color (black), are best left up to the reader's default settings.

Using pixel number or point size to specify font size may end up producing a font that's too large or too small for the terminal's resolution, and make it impossible in certain cases to change font size using the reader's functions. Developers should therefore specify the basic font size with the use of a relative value, such as body{font-size:100%;}; all other font sizes should be specified using relative values as well. The rest should be left up to the EPUB reader.

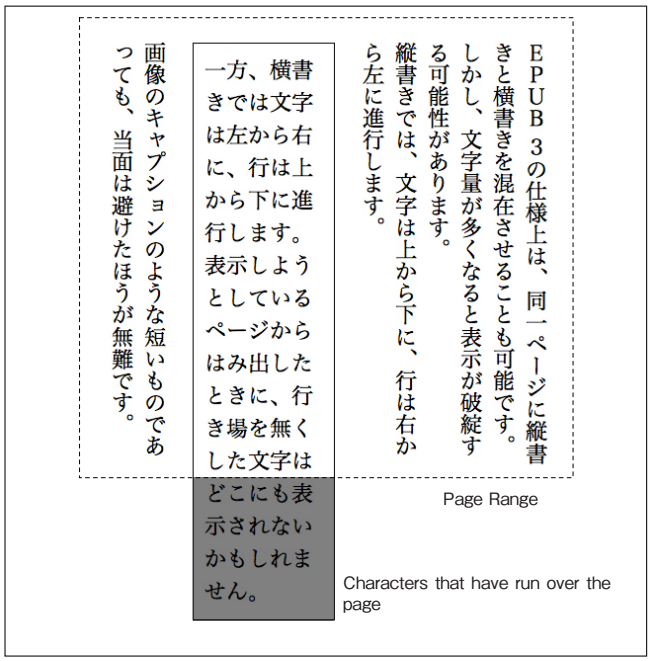
2. Avoid a layout that assumes a window size above a certain fixed size

Digital publishers should never create a layout which assumes that if there is a particular target it should look good on monitors of 768 x 1024 or more. We need to make eBooks

that will look best on a particular target device, but even when reading them on the target device the visual effect will change when the user changes font size or switches between holding the device vertically and holding it horizontally. Rather than making fine adjustments so that it looks good under all of these conditions, digital publishers should strive to develop a book layout for the widest possible variety of monitor sizes and font sizes.

3. Be careful when combining vertical and horizontal text

According to EPUB 3 specifications, vertical and horizontal text can be combined on the same page. However, when your character count is large, the display may break down. In Japanese vertically-written text, characters progress from top to bottom while lines progress from right to left. Meanwhile, horizontal text progresses from left to right while lines progress from top to bottom. When text runs over the page on which it's displayed, characters have nowhere else to go and may disappear. Even if the line is short, as in a screen caption, developers should play it safe to avoid such occurrences.



Example of display combining vertical and horizontal text.

4. Avoid problems with tables

For developers, creating tables creates many of the same issues. From the viewpoint of text structure and accessibility, tables should be treated as tables. In most cases, table creation is necessary for horizontal tables. However, when a horizontal table is placed inside vertical text, characters running over the page range have nowhere to go, and therefore may not be displayed. We recommend avoiding this situation by replacing the conventional horizontal table with an image or graphic.

❖ Converting from dotBook to EPUB 3: Voyager Japan's Conversion Support

Sales of EPUB 3 titles will soon begin, and Voyager Japan is offering conversion support from our existing dotBook format to EPUB 3. That's the exciting news. Unfortunately, specifications for submission of an EPUB book currently differ from store to store, but we're handling these differences with the use of the eBook format conversion system.

Also, because of the lack of EPUB support at some online stores, Voyager Japan will continue to make dotBook titles for the time being—while fully realizing that all these titles will eventually be converted to EPUB, and producing them accordingly.

The following items will be critical to our future conversion efforts:

- Endeavor to use style sheets in performing description.
- Avoid nested lists as much as possible in specifying font size.
- Use heading tags for specifying heading size (do not use font tags).
- Do not perform justification of headings.
- Reflect chapter, section and paragraph structure in headings.
- When performing description of extended characters, include information for conversion to another format in a comment, such as the Unicode value.
- Do not perform specifications which straddle pages.
- Specify each instance of vertical-horizontal combined text individually rather than using the automatic vertical-horizontal combined text function.

❖ Voyager Japan's BinB

Voyager Japan's BinB reader supports EPUB 3. We have created a reading system that can be used on any Web browser that supports HTML5 (not only Safari and Google Chrome, but Firefox and Internet Explorer as well). We don't directly utilize the Readium project, but our development is progressing with reference to EPUB 3 operation and display through Readium.

BinB is not an application that's installed and then used. It's a system that realizes a reading environment requiring only an HTML5-supported browser. By running an eBook reader on these types of browsers, BinB allows users to open electronic book formats such as EPUB and dotBook in any platform (i.e., any device or OS). In the case of an application, developers will need to create and distribute a different version for each platform. Because of this, development of an application will take time and money. Depending on the platform, distribution may prove too great a challenge.

Web browsers are installed as a standard on most platforms, so BinB allows eBooks to be quickly delivered to readers. Voyager Japan believes that Web browsers offer the most cost-effective and elegant way to deliver a reading environment.

❖ Connecting eBooks to the Web

BinB has other essential benefits for your potential audience. Links of all kinds will be handled more smoothly through Web browsers. Also, users will be freed from the time and effort of installing an application to get the book they want.

In some cases, a dedicated SNS (social networking service) application may be necessary for users to search for and locate books, and many of these applications are readily available as existing Web services. People can immediately access books introduced via an SNS through a link in their Web browser. Online booksellers are also easily accessible on the Web. Using Voyager Japan's BinB, an eBook purchased at an online bookstore can be displayed immediately in the Web browser before users have to go to the trouble of downloading it and then opening it in a separate application.

The BinB display is shown on the left side of the above image. The author's blog is on the right. By using an embedding function, eBook contents can be displayed in the blog. A book can therefore be read on a blog without having to move to BinB.

Voyager Japan's BinB provides a character set engine which can be used in a Web browser supporting HTML5. This function allows users to read content in the browser as soon as they access it on a PC, iPhone, iPad or Android device. Unofficially, developers can also use Linux for access to content. Books purchased by your audience are stored and synchronized in the cloud, so a reader can begin a book on a PC and later finish it on a smartphone.

BinB users can also recommend their favorite titles on Facebook or Twitter. The BinB system even allows you to embed an entire book into your blog page to share with others via Twitter or Facebook. And users now have the power to include material previously unable to fit in a traditional book into an electronic version of the same title. This expanded material (such as constantly updated reference information), as well as images, can be put into an EPUB distribution file.

The world of books has undergone dramatic changes in the last twenty years. The convergence of eBooks, the Web and a myriad of mobile devices makes this world even more interesting and enjoyable. Of course, numerous issues remain, but the potential for digital publishing appears limitless. EPUB (with its open standard) and browser-based reading systems such as BinB (able to cover everything from advertising to sales, reading and social networking using only a Web browser) can one day transform the future of reading, and bring to life a publishing environment unlike any that has existed before.

VOYAGER TIMELINE

1998.7	T-Time Internet Vertical Writing and Reading Model (Hybrid edition), a software which converts HTML files into book-like text in a vertical layout, was released.
1998.10	Adapted TTZ format into T-Time, a predecessor of dotbook format (.book).
2000.6	Adapted dotbook file format.
	Adapted T-Time Plugin: a dotbook/vertical reading system for web browsers. Made it possible for distributers to administrate the reading time on web browsers.
2000.9	Dotbook was adopted as the standard ebook format in the PABURI electronic library, the collaborative electronic bookstore of four major publishing companies (KADOKAWA GROUP PUBLISHING, Kodansha, SHUEISHA, SHINCHOSHA Publishing).
	Launched the homepage of Risoh Shoten (Risoh Bookstore meaning "Ideal Bookstore"), an ebook specialized bookstore.
2001.9	Announced T-Time in WinCE/Pocket PC version.
2002.3	Collaborated with Architump. Announced T-Break, a software that makes dotbook readable with Pook, the company's Palm software.
2004.4	Announced T-Bridge, an on-demand printing system via PDF.
2005.3	Announced T-Time 5.5, with a new function which allows exporting on-screen images.
2006.2	Implemented low-brightness mode in T-Time. Made it possible for visually impaired persons to read dotbooks by providing choices in font size, brightness of screen and a magnifying glass.
2006.10	Made T-Time compatible with Denshi-Kataribe, a text-to-speech software, which made it possible to listen to dotbooks.
	Cooperated with CELSYS and INFOCITY. Adapted BookSurfing, a reader for mobile phones. Started distributing dotbook files in BookSurfing format.
2008.5	Announced T-Time Crochet. Started distributing encrypted dotbook files in increments for faster access. Realized a distributing system for high capacity content, such as comics, that can instantly respond to users' requests regarding display mode.
2008.7	Released T-Time for iPhone. Started providing comic books for iPhone and iPod touch in App Store.
2008.11	Made dotbooks compatible with PC-Talker, a text-to-speech software for visually impaired persons using PC.
2009.7	Adapted Risoh Book Viewer, an iPhone application, to handle dotbook files in the Risoh Bookstore. Started distributing dotbook files for PC and iPhone platforms.
2010.6	Adapted Risoh Shoten to iPad and released Voyager Books, a viewer app for iPad.
2010.12	Opened Voyager Store, a virtual shopping center which includes the new direct management shop Altbook. Risoh Shoten won the Japan Electronic Publishing Association's Electronic Publishing Award (JEPA).
2011.3	Toyo Keizai Shinpo-sha Store opened as the third bookstore in the Voyager Store.
2011.5	Gutenberg21 Store opened as the fourth bookstore in Voyager Store.
2011.7	Harlequin Comics Store opened as the fifth bookstore in Voyager Store.
2011.10	Released the EPUB3 Japanese Basic Standard Guide in Japanese and English. Launched the EPUB Japanese Standard Study Group (EPUBJP) jointly with other collaborators.
2011.12	Released BinB, a new reading system by Books in Browsers. BinB reader supports both a fixed layout and reflowable contents. Simultaneously, a BinB store managed by the system of BinB was launched.
2012.7	Yahoo! Bookstore, administered by Yahoo Japan Corporation, adopted BinB. More than 50,000 books including novels and comics are available on web browsers.

Original Edition (Japanese) first published on July 4, 2012
English Edition first published on October X, 2012

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Company Information:
Voyager Japan, Inc. was founded in October 1992 as a joint venture with the Voyager Publishing Company, Inc. (U.S.A.). Voyager Japan owns exclusive rights to sell, translate and sublicense Voyager products in Japan, and has developed original software while growing a publishing business. In addition, Voyager Japan's online journal, Magazine Ko, provides news about digital publishing.

Our Business:
Electronic publishing (e-publishing)
- Planning, producing and publishing electronic publications (e-publications)
- Developing software (viewer, editing tool) to handle e-publications with text /audio/ movie data

VOYAGER

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