

Items RSs are expected to have in the future

Though this guide does not assume using practically, we have noted the difficulties on creation, and the points to correspond promptly when having additional RS functions, EPUB specification renewal, etc.

About text

■ Input and display as text data

In reflowable publications, it is able to display the text data and using non-standard kanji character images as few as possible, in order to help the use of text decoration by Style Sheet, text spacing which uses font information, searching in books, searching across multiple books, etc. It is preferable to display them without deliberate differences between RSs. It is desired to be able to place text data which designates text size and position also in publications of fixed layout. Also, regardless of reflowable or fixed layouts, when using pages on which the text is represented as a part of images due to matters of font, design, and so on, it is hoped that an RS common system to set and use text data within the page would be introduced to let readers search the page they want to see.

■ Character set

Currently, in the production of physical commercial publications in Japan, the character set of Adobe-Japan-1-6 is used as a standard specification due to the correspondence environment of major fonts and tools. In electronic publications, it is desired at least these characters to be displayed without using means otherwise of text data.

As a first step, of the character set of Adobe-Japan-1-6, it is desired to be able to use all characters in the range of Unicode without using the Unicode variant character selector (IVS).

As the next step, it is desired to be able to use all of the character shapes recorded in Adobe-Japan-1 of the Kanji collection registered in Unicode Kanji shape database (Ideographic Variation Database, IVD), by using variant character selector. Also, even when the RS does not support the use of variant character selector, it is required not to display the character shaping selectors (U+E01**) as a space or another letter.

Finally, it is expected that the use of other Kanji collections, including switching of the specified font in the text, will become possible.

■ Standard Text Direction when vertically oriented

As long as Unicode is the standard of EPUB 3 specification, the text direction in vertical orientation is strongly desired to follow the rules presented by the Unicode Consortium. Also, it is desirable to avoid replacing the character on the RS's own judgment, when the character replacement is not defined by text orientation, and the character does not have an orientation dependent glyph in the font.

■ Designation of Text Direction when vertically oriented

The designation to change the text direction defined in EPUB 3 specification, upright and sideways of -epub-text-orientation is preferable to be reflected; they would prevent using too many non-standard kanji character images.

* property 'text-orientation' was defined in CSS3 as a W3C recommendation.

An upright designated character in vertical orientation should be centered in the text even when it is a half-width character.

Also, most of the RSs in Japan support sideways already, and it is expected all RSs will be able to support sideways as soon as possible.

For functions related to the RS operation by readers

■ EPUB Navigation Documents (logical content function)

In navigation documents, the following considerations are expected;

- The same character set with the body should be able to use when displaying the navigation document
- It does not always have designations for vertically oriented pages (such as horizontal text in vertical orientations), so do not orient the page vertically without any designations.
- Do not require landmarks nav to be essential for distribution. Also, ignore landmarks nav when the RS does not support them.
- When rubies are not supported, do not display them in the text.
- Even when list layers cannot be displayed due to the convenience of spaces, the classified list should be understood correctly, and confirm there is no missing text or links that cannot jump.

■ Preparing alternate images in bookshelves, etc. when the cover image does not exist in the electronic publication data

Since not all publications have a cover image (for rights clearance reasons, etc.), it would be preferable if RSs prepared an alternate image to show in bookcases for publications without cover images, or took similar measures to enable the smooth execution of operations.

■ Installing functions to trace the history of links

When setting links from plural places to a single destination (example: when referring to one map or table from a number of chapters in the work), it may be difficult to prepare a link to the original place, or may not be favorable due to the design or the work's quality. Also, when only an image with a link is placed over-all the page, an accidental page transition may happen from the reader's page turning.

When it is difficult for the publication side to provide a means to return to the original location from the transition destination as such as these cases, functions which makes readers easily trace the history of links should be implemented. For example, modern browsers which supports Web Standards have functions such as "navigation keys" and "history".

■ About the text color when the user changes the background color

When the user uses the RS function to change the background color to black (night mode, etc.), very few RSs reverses only the color of the text, not reversing the color of the link, and makes link strings illegible. Considering the corresponding environment of other major RSs, if the RS possesses functions to change the background or text color, we expect the following considerations.

- When the designated text color or the link color is the same with the background color the user chose, change the text color or the link color to other legible color.
- When the work is changed to a color the producer had not intended due to the reader's operation, even when it has become illegible, the distribution of the work should not be stopped or disapproved.
- When it is changed to a color not designated in the work data, the display may change unsuitable to the intention of the author or producer; this should be demonstrated in the function introduction or the help command in the RS.

About HTML, CSS, SVG

■ Designating background color to the entire line (designating background color to the block element)

Currently, some RSs do not display the background color of the block element as the specification. On the occasion of electronizing paper books, there are a large amount of data which uses this kind of designation, so the background color to the block element should be supported to the utmost.

■ Designating background color to the entire page

When using the designation of background color to the entire page, there are RSs which work, RSs which do not work, and RSs which reflect only part of the designation, which show that we are not in an environment to use it safely. Even when the designation works, there are RSs that designating to the html element would be suitable, and RSs that need to designate to the body element. In this guide, we designate only text orientation and font specification to the html element as a general rule, so as web browsers for PC, when designating background color to the body element, it is desirable to underlay the background color to the entire page.

On the other hand, the background color of the whole publication is changeable depending on the RS; producers should keep it in mind, and consider making the data not too much dependent on the background color.

■ Image insertion by SVG wrapping in reflowable publications

Due to the increase of the resolution of devices, images to be inserted in to the publications are also becoming necessary to be high resolution. However, remaking all of the former data every time the image size required for the device changes would be very difficult. Also, some RSs are already starting to require image sizes larger than the size required in book printing. However, there is difficulty in meeting the requirement at the present state, and in spite of the situation, there are many cases which "large appearance" to the readers is necessary (e.g. displaying items such as frontispiece, insert, chart, etc. large on the entire page).

To meet this need, reflowable publications should be able to support SVG wrapping to insert images as fixed layout publications does; this would let the size of the image adjust to the displaying screen, without changing the ratio of it. Also, for pages composed with complicated layout such as contents and illustrations, changing the entire page into an image and inserting it with the SVG wrapping method would suit the convenience of the readers.

Leading commercially designed RSs in Japan have already corresponded to these types of designation. However, in some reflowable publications, there are cases that an error occurs when an image map is inside the SVG wrapping, and could not be distributed; situations as these should be improved to be able to display large images without anxiety.

■ Media Queries

Devices such as smartphones and tablets standardly have the function to switch screens either horizontally long or vertically long, and the content that can be displayed in the screen alters largely by the height of the screen, so the following screen direction designation should be set before other settings of Media Queries.

horizontally long screens : @media all and (orientation: landscape) { }

vertically long screens : @media all and (orientation: portrait) { }

When using "orientation: landscape", as EPUB Fixed Layout considers horizontally long screens as "landscape", it is preferable to have the "landscape" designations applied, even when displaying two vertically long pages in the screen of sideways placed device.

■ Others, values and properties that should be supported preferentially

- SVG (not only about SVG wrapping, but also about inserting as image file, or embedding the source in xhtml)
- Wraparound (float / clear)
- Sectioning content element (<section> / <aside> / <article>)

- Header • footer • heading related elements (<header> / <footer>)
- Using the local designation of text works in the fixed layouts.
- {text-indent: hanging;}
- Image placing, fitting related (object-fit / object-position)
- determining the behavior of the flexbox layout in page media
- rounded corner designation of border (border-radius)