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Information technology — Digital publishing — EPUB 3.0.1 —

Part 1:
Overview

Technologies de l'information — Publications numériques — EPUB 3.0.1 —

Partie 1: Aperçu général

Foreword

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This document was prepared by the World Wide Web Consortium (W3C) (as EPUB 3 Overview) and drafted in accordance with its editorial rules. It was adopted, under the JTC 1 PAS procedure, by Joint Technical Committee ISO/IEC JTC 1, *Information technology*.

A list of all parts in the ISO/IEC 23736 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

EPUB 3 Overview

Recommended Specification 26 June 2014

A *diff of changes* from the previous version is also available.

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This document is informative

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› 1 Introduction

› 1.1 Overview

The EPUB® specification is a distribution and interchange format standard for digital publications and documents. EPUB defines a means of representing, packaging and encoding structured and semantically enhanced Web content — including HTML5, CSS, SVG and other resources — for distribution in a single-file format.

EPUB 3, the third major release of the standard, consists of a set of four specifications, each defining an important component of an overall EPUB Publication:

- EPUB Publications 3.0.1 [Publications301], which defines the semantics and overarching conformance requirements for each Rendition of an EPUB Publication.

- EPUB Content Documents 3.0.1 [ContentDocs301], which defines profiles of XHTML, SVG and CSS for use in the context of EPUB Publications.

- EPUB Open Container Format (OCF) 3.0.1 [OCF301], which defines a file format and processing model for encapsulating a set of related resources into a single-file (ZIP) EPUB Container.

- EPUB Media Overlays 3.0.1 [MediaOverlays301], which defines a format and a processing model for synchronization of text and audio.

EPUB has been widely adopted as the format for digital books (eBooks), and these new specifications significantly increase the format's capabilities in order to better support a wider range of publication requirements, including complex layouts, rich media and interactivity, and global typography features. The expectation is that EPUB 3 will be utilized for a broad range of content, including books, magazines and educational, professional and scientific publications.

This document provides a starting point for content authors and software developers wishing to understand these specifications. It consists entirely of informative overview material, including a roadmap to the four building-block specification documents that compose EPUB 3.

Another informative document, EPUB 3 Changes from EPUB 2.0.1 [EPUB3Changes], describes changes in EPUB 3 from the previous version, but is intended primarily for Authors and EPUB Reading System vendors migrating from EPUB 2.0.1 to EPUB 3 and for those who anticipate supporting both versions.

› 1.2 Roadmap

This section provides an overview of the EPUB 3 specifications by explaining in brief the components of an EPUB Publication. Links to additional information within this document and to the specifications are included.

An EPUB Publication, at its most basic level, is a bundled collection of resources that can be reliably and predictably ingested by an EPUB Reading System in order to render its contents to a User. Each EPUB Publication consists of one or renderings of its content, called Renditions.

Some of the resources in the EPUB Container facilitate the discovery and processing of the Renditions, while others make up the content of the source publication. The latter, EPUB Content Documents, are described in Content Documents and are fully defined in [ContentDocs301].

An EPUB Publication's resources are typically bundled for distribution as a ZIP-based archive with the file extension `.epub`. As conformant ZIP archives, EPUB Publications can be unzipped by many software programs, simplifying both their production and consumption. The container format is introduced in Container and defined in [OCF301].

The container format not only provides a means of determining that the zipped content represents an EPUB Publication (the `mimetype` file), but also provides a universally-named directory of informative resources (`/META-INF`). Key among these is the `container.xml` file, which directs Reading Systems to the root files of the available Renditions of the EPUB Publication (their Package Documents).

The Package Document is itself a kind of centralized information source for a given Rendition, storing metadata about the specific work expressed by the Rendition, providing an exhaustive list of resources and defining a default reading order. The Package Document is introduced in Package Document and defined in [Publications301].

The preceding components of an EPUB Publication are not new to EPUB 3, and will be familiar to anyone who has worked with EPUB Publications before, although they have been changed and enhanced in this version. A new core addition to EPUB 3, however, is the Media Overlay Document, which defines a means of synchronizing text and audio playback for a given Rendition. The Overlay Document is introduced in Multimedia and defined in [MediaOverlays301].

The following example shows the resources a minimal single-Rendition "Hello World" EPUB Publication might contain:

```
mimetype
META-INF/container.xml
```

```
Content/HelloWorld.opf
Content/HelloWorld.xhtml
```

While conceptually simple, an EPUB Publication is more than just a collection of HTML pages and dependent assets in a ZIP package as represented in this example. The following sections of this document delve into more detail about the primary features and functionality that EPUB Publications provide to enhance the reading experience.

› 2 Features

This section covers the major features of EPUB, including important components and topics that apply to the process of authoring EPUB Publications as a whole.

› 2.1 Package Document

Each Rendition of an EPUB Publication includes a single Package Document, which specifies all the resources required to render that Rendition. The Package Document also defines a reading order for linear consumption, and associates metadata and navigation information for the Rendition.

The Package Document represents a significant improvement on a typical Web site. A Web site, for example, embeds references to its resources within its content, which, while a simple and flexible means of identifying resources, makes it difficult to enumerate all the resources required to render it. In addition, there is no standard way for a Web site to define that a sequence of pages make up a larger publication, which is precisely what EPUB's `spine` [Publications301] element does (i.e., it provides an external declarative means to explicitly specify navigation through a collection of documents). Finally, the Package Document defines a standard way to represent metadata globally applicable to a collection of pages.

The Package Document also includes a `collection` [Publications301] element, which allows grouping of logically-related Publication Resources. This element exists to enable the development of specialized content identification, processing and rendering features, such as the ability to define embedded preview content, or assemble an index or dictionary from its constituent XHTML Content Documents.

The Package Document and other Rendition-specific constructs are specified in [Publications301].

› 2.2 Navigation

› 2.2.1 Reading Order

A key concept of EPUB is that an EPUB Publication consists of multiple resources that can be completely navigated and consumed by a person or program *in some specific order*.

Many types of publication have an obvious reading order, or logical progression through their content. A novel is an example of a highly sequential document — it typically has a beginning, middle and end — but not all publications are so ordered: a cookbook or collection of photographic images might be considered to be more like a database. All documents do, however, have at least one logical ordering

of all their top-level content items, whether by date, topic, location or some other criteria (e.g., a cookbook is typically ordered by type of recipe).

Each Rendition of an EPUB Publication defines at least one such logical ordering of all its top-level content (the spine [Publications301]), as well as a declarative table of contents (the EPUB Navigation Document [ContentDocs301]). EPUB Publications make these data structures available in a machine-readable way *external* to the content, simplifying their discovery and use.

EPUB Publications are not limited to the linear ordering of their contents, nor do they preclude linking in arbitrary ways — just like the Web, EPUB Publications are built on hypertext — but the basic consumption and navigation can be reliably accomplished in a way that is not true for a set of HTML pages.

› 2.2.2 Navigation Document

Each Rendition of an EPUB Publication contains a special XHTML Content Document called the EPUB Navigation Document, which uses the HTML5 `nav` element to define human- and machine-readable navigation information.

The Navigation Document supersedes the NCX document [OPS2], and the inclusion of NCX documents is only recommended for forward compatibility in older Reading Systems. The Navigation Document, while maintaining the baseline accessibility and navigation support and features of the NCX, introduces new functionality and rendering features to enhance navigation for all Users. Prime among these are better support for internationalization (as an XHTML5 document itself, the Navigation Document natively supports ruby annotations) and support for embedded grammars (MathML and SVG can be included within navigation links).

As XHTML Content Documents, Navigation Documents also provide a flexible means of tailoring the navigation display using CSS and the hidden attribute [ContentDocs301] while not impacting access to information for accessible Reading Systems.

The structure and semantics of Navigation Documents are defined in EPUB Navigation Documents [ContentDocs301] .

› 2.3 Linking

The new EPUB Canonical Fragment Identifier (epubcfi) Specification [EPUBCFI] defines a standardized method for linking into an EPUB Publication.

Required support for this scheme in Reading Systems means that EPUB now has an interoperable linking mechanism, one that can, for example, facilitate the sharing of bookmarks and reading locations across devices.

› 2.4 Metadata

EPUB Publications provide a rich array of options for adding metadata. Each Rendition's Package Document includes a dedicated metadata section [Publications301] for general information about the EPUB Publication, allowing titles, authors, identifiers and other information about the EPUB Publication to be easily accessed. It also provides the means to attach complete bibliographic records using the link element [Publications301] .

The Package Document also allows a Unique Identifier to be established for the EPUB Publication using the unique-identifier attribute [Publications301] . The required last-modified date in the Package

metadata section can be joined with this identifier to define a Release Identifier, which provides a means of distinguishing different versions of an EPUB Publication (see Publication Identifiers [Publications301]). The Package Identifier addresses the issue of how to release an EPUB Publication without changing its Unique Identifier while still identifying it as a new version.

XHTML Content Documents also include the means of annotating document markup with rich metadata, making them more semantically meaningful and useful both for processing and accessibility purposes (XHTML Semantic Inflection [ContentDocs301]). Both RDFa and Microdata attributes can also be used in XHTML Content Documents, enabling content-level metadata expressions (XHTML Semantic Enrichment [ContentDocs301]).

› 2.5 Content Documents

Each Rendition of an EPUB Publication contains one or more EPUB Content Documents, as defined in [ContentDocs301]. These are XHTML or SVG documents that describe the readable content and reference associated media resources (e.g., images, audio and video clips).

XHTML Content Documents are defined by a profile of HTML5 that requires the use of XML serialization [HTML5] in order to ensure that content can be reliably manipulated and rendered. This profile also adds two additional EPUB-specific language constructs: the epub:type attribute [ContentDocs301] for element-level metadata and the epub:trigger element [ContentDocs301] for declaratively associating controls with multimedia elements.

These additions do not affect the ability of an HTML5 User Agent [HTML5] to render XHTML Content Documents, but EPUB Publications might not render identically in all User Agents depending on their support.

› 2.6 Fixed Layouts

Although EPUB's history is steeped in enabling reflowable content, not all publications lend themselves easily to reflowing. Children's books, comics and manga, magazines and many other content forms require the ability to create page-precise layouts to be represented in a meaningful fashion.

EPUB 3 includes metadata that allows the creation of fixed-layout XHTML Content Documents [Publications301] , in addition to existing capabilities for fixed layouts in SVG. This metadata enables the dimensions of the page [ContentDocs301] to be controlled, creating a canvas on which elements can be absolutely positioned.

The metadata does not just flag whether content is to be fixed or reflowed, but also allows Authors to specify the desired orientation of pages [Publications301] , when to create synthetic spreads [Publications301] , and how to position pages [Publications301] within those spreads, providing a broad range of control over the presentation of EPUB Publications.

› 2.7 Rendering and CSS

A key concept of EPUB is that content presentation adapts to the User, rather than the User having to adapt to a particular presentation of content. HTML was originally designed to support dynamic rendering of structured content, but over time HTML as supported in Web browsers has become focused on the needs of Web applications, and most popular Web sites now have fixed-format layouts.

EPUB Publications, however, are designed to maximize accessibility for the visually impaired, and Reading Systems typically perform text line layout and pagination on the fly, adapting to the size of the display area, the User's preferred font size, and other environmental factors. This behavior is not guaranteed in EPUB; images, vector graphics, video and other non-reflowable content might be included, and some Reading Systems might not paginate on the fly, or at all. Nevertheless, supporting dynamic adaptive layout and accessibility has been a primary design consideration throughout the evolution of the EPUB standard.

EPUB Content Documents can reference EPUB Style Sheets, allowing Authors to define the desired rendering properties. EPUB 3 defines a profile of CSS based on CSS 2.1 [CSS2.1] for this purpose, together with capabilities defined by various CSS3 Modules and several additional properties specific to EPUB.

CSS3 properties were selected based on their current level of support in Web browsers, but support for them in Reading Systems and User Agents is not guaranteed (EPUB-defined properties can similarly be ignored).

EPUB 3 also supports CSS styles that enable both horizontal and vertical layout and both left-to-right and right-to-left writing, but Reading Systems might not support all of these capabilities. Reading Systems might also support different rendering options than the Author intended. Refer to CSS in the Global Language Support section for more information.

EPUB 3 also supports the ability to include multiple style sheets that allow users, for example, to select between day/night reading modes or to change the rendering direction of the text. Refer to Alternate Style Tags [ContentDocs301] for more information.

› 2.8 Multimedia

EPUB 3 supports audio and video embedded in XHTML Content Document via the new [HTML5] `audio` and `video` elements, inheriting all the functionality and features these elements provide. (For information on supported audio formats, please refer to Core Media Types [Publications301] . For recommendations on embedding video, refer to Reading System Conformance [Publications301] .)

Another key new multimedia feature in EPUB 3 is the inclusion of Media Overlay Documents [MediaOverlays301]. When pre-recorded narration is available for a Rendition of an EPUB Publication, Media Overlays provide the ability to synchronize that audio with the text of a Content Document (see also Aural Renditions and Media Overlays).

› 2.9 Fonts

EPUB 3 supports two closely-related font formats — OpenType [OpenType] and WOFF [WOFF] — to accommodate both traditional publishing workflows and emerging Web-based workflows. Word processing programs used to create EPUB Publications are likely to have access only to a collection of installed OpenType fonts, for example, whereas Web-archival EPUB generators will likely only have access to WOFF resources (which cannot be converted to OpenType without undesirable, and potentially unlicensed, stripping of WOFF metadata).

EPUB 3 also supports both obfuscated and regular font resources for both OpenType and WOFF font formats. Support for obfuscated font resources is required to accommodate font licensing restrictions for many commercially-available fonts.

› 2.10 Scripting

EPUB strives to treat content *declaratively* — as data that can be manipulated, not programs to be executed — but does support scripting as defined in HTML5 and SVG (refer to Scripted Content Documents [ContentDocs301] for more information).

It is important to note, however, that scripting support is optional for Reading Systems and might be disabled for security reasons.

Authors need to be aware that scripting in an EPUB Publication can create security considerations that are different from scripting within a Web browser. For example, typical same-origin policies are not applicable to content that has been downloaded to a User's local system. Therefore, it is strongly encouraged that scripting be limited to container constrained contexts, as further described in Scripted Content Documents — Content Conformance [ContentDocs301] .

In other words, consider limiting scripting to cases where it is essential to the User experience, since it greatly increases the likelihood that content will not be portable across all Reading Systems and creates barriers to accessibility and content reusability.

› 2.11 Text-to-speech

EPUB 3 provides the following text-to-speech (TTS) facilities for controlling aspects of speech synthesis, such as pronunciation, prosody and voice characteristics:

Pronunciation Lexicons

> The inclusion of generic pronunciation lexicons using the W3C PLS format [PLS] enables Authors to provide pronunciation rules that apply to the entire EPUB Publication. Refer to PLS Documents [ContentDocs301] for more information.

Inline SSML Phonemes

> The incorporation of SSML phonemes functionality [SSML] directly into a EPUB Content Document [ContentDocs301] enables fine-grained pronunciation control, taking precedence over default pronunciation rules and/or referenced pronunciation lexicons (as provided by the PLS format mentioned above). Refer to SSML Attributes [ContentDocs301] for more information.

CSS Speech Features

> The inclusion of a select set of features from the CSS 3 Speech Module [CSS3Speech] (previously known as CSS 2.1 Aural Style Sheets [CSS2.1]) enables Authors to control further speech synthesis characteristics. Refer to CSS 3.0 Speech [ContentDocs301] for more information.

› 2.12 Container

An EPUB Publication is transported and interchanged as a single file (a "portable document") that contains the Package Documents, all Content Documents and all other required resources for processing the included Renditions. The single-file container format for EPUB is based on the widely adopted ZIP format, and an XML document that identifies the location of the Package Document for each Rendition in the ZIP archive is located at a pre-defined location within the archive.

This approach provides a clear contract between any creator of an EPUB Publication and any system which consumes such EPUB Publications, as well as a reliable representation that is independent of network transport or file system specifics.

An EPUB Publication's representation as a container file is specified in [OCF301].

› 3 Global Language Support

› 3.1 Metadata

EPUB 3 supports alternate representations of all text metadata items in the package metadata section to improve global distribution of EPUB Publications. The `alternate-script` property can be combined with the `xml:lang` attribute to include and identify alternate script renderings of language-specific metadata.

Using this property, a Japanese EPUB Publication could, for example, include an alternate Roman-script representation of the author's name and/or one or more representations of the title in Romance languages. Refer to the alternate-script property [Publications301] for more information.

The `page-progression-direction` attribute also allows the content flow direction to be globally specified for all Content Documents to facilitate rendering (see the page-progression-direction [Publications301]).

› 3.2 Content Documents

XHTML Content Documents leverage the new HTML5 directionality features to improve support for bidirectional content rendering: the `bdi` element allows an instance of directional text to be isolated from the surrounding content, the `bdo` element allows directionality to be overridden for its child content and the `dir` attribute allows the directionality of any element to be explicitly set.

XHTML Content Documents also support ruby annotations for pronunciation support (which makes them supported in Navigation Document links, as well).

SVG Content Documents support the rendering of bidirectional text, but do not include support for ruby.

› 3.3 CSS

EPUB 3's support for new CSS3 modules enables typography for many different languages and cultures. Some specific enhancements include:

- support for vertical writing, which also provides Reading Systems the ability to allow users to toggle direction;

- better handling of emphasis, such as the inclusion of bōten;

- better control over line breaking, so that breaks can occur at the character level for languages that do not use spaces to delimit new words; and

- better control over hyphenation, to further facilitate line breaking.

› 3.4 Fonts

EPUB 3 does not require that Reading Systems come with any particular set of built-in system fonts. As occurs in Web contexts, Users in a particular locale might have installed fonts that omit characters required for other locales, and Reading Systems might utilize intrinsic fonts or font engines that do not utilize operating system installed fonts. As a result, the text content of an EPUB Publication might not natively render as intended on all Reading Systems.

To address this problem, EPUB 3 supports the embedding of fonts to facilitate the rendering of text content, and this practice is recommended in order to ensure content is rendered as intended.

Support for embedded fonts also ensures that characters and glyphs unique to an EPUB Publication can be embedded for proper display.

› 3.5 Text-to-speech

EPUB 3's support for PLS documents and SSML attributes increases the pronunciation control that Authors have over the rendering of any natural language in text-to-speech-enabled Reading Systems. Refer to Text-to-speech in the Features section for more information on these capabilities.

The combination of CSS Speech and inline SSML phonemes also allows fine control over ruby.

› 3.6 Container

The OCF container format supports UTF-8, allowing for internationalized file and directory naming of content resources.

› 4 Accessibility

A major goal of EPUB is to facilitate content accessibility, and a variety of features in EPUB 3 support this requirement. This section reviews these features, detailing some established best practices for ensuring that EPUB Publications are accessible where applicable.

It is important to note that while accessibility is important in its own right, accessible content is also more valuable content: an accessible EPUB Publication will be adaptable to more devices and be easier to reuse, in whole or in part, via human and automated workflows. The EPUB Working Group strongly recommends that Authors ensure that they generate accessible content.

› 4.1 Navigation

EPUB 3 improves on NCX documents with the addition of EPUB Navigation Documents. As noted in Navigation Document above, the new navigation features represent a more universal and flexible navigation system.

Navigation by table of contents is not exclusively an accessibility issue, but a complete table of contents ensures all Users can easily and fully access the contents of an EPUB Publication. The primary toc nav element [ContentDocs301] has to fully reflect the structure of the EPUB Publication to provide this functionality, otherwise navigation gets compromised for some Users.

The Navigation Document can also be reused in the body of an EPUB Publication by including it in the `spine`. To avoid the situation in highly structured documents where it might not be desirable to

display the complete table of contents to Users in the body, the display level can be modified using the [HTML5] `hidden` attribute. This attribute is ignored by Reading Systems when they render the table of contents outside the `spine` (e.g., in their own specialized views), which avoids minimizing the information that is available.

Authors are also encouraged to supply additional `nav` elements if their EPUB Publications contain non-structural points of interest, such as figures, tables, etc. in order to further enhance access to the content.

› 4.2 Semantic Markup

HTML5 supports a number of new elements intended to make markup more semantically meaningful (e.g., `section`, `nav` and `aside`) and introduces more clearly defined semantics for some HTML4 elements. Make use of these elements, in conjunction with best practices for authoring well-structured Web content, when creating EPUB XHTML Content Documents. These additions allow content to be better grouped and defined, both for representing the structure of documents and to facilitate their logical navigation. XHTML Content Documents also natively support the inclusion of ARIA role and state attributes and events, enhancing the ability of Assistive Technologies to interact with the content.

EPUB 3 further introduces the epub:type [ContentDocs301] attribute, which is meant to be functionally equivalent to the W3C Role Attribute [Role]. This attribute allows any element in an XHTML Content Document to include additional information about its purpose and meaning within the work, using controlled vocabularies and terms. Refer to XHTML Semantic Inflection [ContentDocs301] for more information.

› 4.3 Dynamic Layouts

The design center of EPUB is dynamic layout: content is typically intended to be formatted on the fly rather than being typeset in a paginated manner in advance (i.e., expecting a particular sized "page"). This core capability is useful, for example, for optimizing rendering onto different sized device screens or window sizes, and it facilitates and simplifies content accessibility.

While it is possible to incorporate more highly formatted content in EPUB — for example via bitmap images or SVG graphics, or even use of CSS explicit positioning and/or table elements to achieve particular visual layouts — Authors are strongly discouraged from utilizing such techniques. They are not reliable in EPUB since many Reading Systems render content in a paginated manner rather than creating a single scrolling Viewport and since each Reading System might define its own pagination algorithm. If these techniques are necessary to convey the content of the publication, consider including fallbacks [Publications301] (e.g., for graphic novels).

In general, it is preferable to achieve visual richness by using EPUB Style Sheets without absolute sizing or positioning.

› 4.4 Content Descriptions

Although descriptions are commonly associated with image-based content, the ability to describe any complex structure in a document is a necessary requirement to make the content more accessible. Describing complex tabular data can be beneficial to all readers, for example.

EPUB 3 includes two mechanisms for attaching descriptions to structures in XHTML Content Documents. The [WAI-ARIA] `aria-describedby` attribute was allows enables linking to descriptions

within the same page, and the [WAI-ARIA-1.1] `aria-describedat` attribute can be used to reference descriptions in another file (which can be located inside or outside the EPUB Container).

› 4.5 Aural Renditions and Media Overlays

Aural renderings of content are important for accessibility and are a desirable feature for many other Users. A baseline to facilitate aural rendering is to utilize semantic HTML designed for dynamic layout. Refer to Text-to-speech for more information on how to use the native facilities that EPUB XHTML Documents include.

Media Overlays provide the ability to synchronize the text and audio content of an EPUB Publication, a feature already familiar to readers of DAISY Digital Talking Books. Overlays transcend the accessibility domain in their usefulness: the synchronization of text and audio as a tool for learning to read, for example, being of benefit in many circumstances.

› 4.6 Fallbacks

Not all formats are accessible in their native format, and not all Users prefer to read in the default format provided. EPUB defines a variety of means for providing fallbacks so that alternate renderings can be made available in these cases.

Publication- and content-level fallbacks are defined in Restrictions and Fallbacks [Publications301] . These fallback mechanisms enable the inclusion of Foreign Resources in an EPUB Publication and ensure compatibility of EPUB 3 content across Reading Systems with varying capabilities (e.g., they allow the inclusion of multiple video formats, and the inclusion of XHTML fallbacks to SVG Content Documents for EPUB 2 Reading Systems).

The switch element [ContentDocs301] similarly provides fallback capabilities for markup-level content features that might not be supported in some Reading Systems (e.g., to enable the inclusion of ChemML in EPUB 3 Reading Systems, or to provide an alternative to MathML for EPUB 2 Reading Systems).

In addition, multiple instances of a complete work can be delivered in a single EPUB Publication by defining multiple `rootfile` elements in the OCF container file (as described in Container – META-INF/container.xml [OCF301]). These alternate Rendition fallbacks might be used, for example, so that a formatted graphic novel defined via a sequence of SVG pages can be accompanied by an accessible text version defined via XHTML.

› 4.7 Scripting

EPUB 3 adopts a progressive enhancement approach for scripted content, whereby scripting has to not interfere with the integrity of the document (i.e., not result in information loss when scripting is not available). Consequently, although documents that do employ scripting can provide fallbacks [ContentDocs301] to further facilitate access to their contents, the documents have to be accessible without them.

Several mechanisms in EPUB can further minimize and constrain scripting within EPUB Publications to improve accessibility:

- The declarative trigger element [ContentDocs301] added to the EPUB HTML5 profile enables image or textual elements to act as controls for audio and video playback (for example, to start,

stop and pause playback). This element eliminates the common use of scripting to include similar functionality.

- The mediaType element [Publications301] provides a means of encapsulating script-based support for rendering custom XML vocabularies or other custom content types, as well as future-proofs EPUB Publications in case such content types are natively supported in future Reading Systems.

- The semantic inflection capability provided by the type attribute [ContentDocs301] enables Authors to provide hints to Reading Systems about content properties. One use case is to define elements such as images and video as having a zoomable property value, in which case a Reading System could provide a means for Users to access an expanded view that is out-of-line with the normal layout. Such rollover effects are typically implemented via scripting in Web contexts, but scripting cannot be readily implemented given the wide variety of layouts that a Reading System might generate.

- The switch element [ContentDocs301] provides a declarative means for Authors to tailor the content displayed to Users without having to resort to scripted solutions.

Ensure that you always implement best practices for accessible scripting in Web documents, such as provided in [WAI-ARIA], and reserve the use of scripting for situations in which interactivity is critical to the User experience.

› Appendix A. Glossary

This appendix is informative

EPUB Publication

A collection of one or more Renditions conforming to the EPUB 3 specifications , packaged in an EPUB Container.

An EPUB Publication typically represents a single intellectual or artistic work, but the EPUB 3 specifications do not circumscribe the nature of the content.

Rendition

A logical document entity consisting of a set of interrelated resources representing one rendering of an EPUB Publication.

Publication Resource

A resource that contains content or instructions that contribute to the logic and rendering of at least one Rendition of an EPUB Publication. In the absence of this resource, the EPUB Publication might not render as intended by the Author. Examples of Publication Resources include a Rendition's Package Document, EPUB Content Document, EPUB Style Sheets, audio, video, images, embedded fonts and scripts.

With the exception of the Package Document itself, the Publication Resources required to render a Rendition are listed in that Rendition's manifest [Publications301] and bundled in the EPUB Container file (unless specified otherwise in Publication Resource Locations [Publications301]).

Examples of resources that are not Publication Resources include those identified by the Package Document link [Publications301] element and those identified in outbound

hyperlinks that resolve outside the EPUB Container (e.g., referenced from an [HTML5] `a` element `href` attribute).

EPUB Content Document

A Publication Resource that conforms to one of the EPUB Content Document definitions (XHTML or SVG).

An EPUB Content Document is a Core Media Type, and may therefore be included in the EPUB Publication without the provision of fallbacks [Publications301] .

XHTML Content Document

An EPUB Content Document conforming to the profile of [HTML5] defined in XHTML Content Documents [ContentDocs301] .

XHTML Content Documents use the XHTML syntax of [HTML5].

SVG Content Document

An EPUB Content Document conforming to the constraints expressed in SVG Content Documents [ContentDocs301] .

EPUB Navigation Document

A specialization of the XHTML Content Document, containing human- and machine-readable global navigation information, conforming to the constraints expressed in EPUB Navigation Documents [ContentDocs301] .

Core Media Type

A set of Publication Resource types for which no fallback is required. Refer to Publication Resources [Publications301] for more information.

Package Document

A Publication Resource carrying bibliographical and structural metadata about a given Rendition of an EPUB Publication, as defined in Package Documents [Publications301] .

Unique Identifier

The Unique Identifier is the primary identifier for an EPUB Publication, as identified by the `unique-identifier` attribute. The Unique Identifier may be shared by one or many Renditions of the same EPUB Publication that conform to the EPUB standard and embody the same content.

The Unique Identifier is less granular than the ISBN. However, significant revision, abridgement, etc. of the content requires a new Unique Identifier.

Release Identifier

The Release Identifier allows any instance of an EPUB Publication to be compared against another to determine if they are identical, different versions, or unrelated.

Refer to Release Identifier [Publications301] for more information.

Media Overlay Document

An XML document that associates the XHTML Content Document with pre-recorded audio narration in order to provide a synchronized playback experience, as defined in [MediaOverlays301].

EPUB Style Sheet (or Style Sheet)

A CSS Style Sheet conforming to the CSS profile defined in EPUB Style Sheets [ContentDocs301] .

Viewport

The region of an EPUB Reading System in which the content of an EPUB Publication is rendered visually to a User.

EPUB Container (or Container)

The ZIP-based packaging and distribution format for EPUB Publications defined in [OCF301].

Author

The person(s) or organization responsible for the creation of an EPUB Publication, which is not necessarily the creator of the content and resources it contains.

User

An individual that consumes an EPUB Publication using an EPUB Reading System.

EPUB Reading System (or Reading System)

A system that processes EPUB Publications for presentation to a User in a manner conformant with the EPUB 3 specifications .

› Appendix B. Acknowledgements and Contributors

This appendix is informative

› B.1 EPUB 3.0

EPUB has been developed by the International Digital Publishing Forum in a cooperative effort, bringing together publishers, vendors, software developers, and experts in the relevant standards.

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