

ONIX for Books

Product Information Message

Application Note: Providing Accessibility metadata in ONIX

For many readers – whether because of poor eyesight or blindness, or for any other physical or cognitive reason – mainstream print books are difficult or impossible to use. In the past, the very limited range of audio books, Braille editions and specialised DAISY audio were the only options.

E-books and accessibility

The advent of e-books, and in particular the growth in use of the EPUB format, has revolutionised the availability of books accessible to print-impaired readers, though fully-equal access is still a way off. E-books are often, almost automatically, more accessible than print. And with EPUB, a mainstream e-book format used widely across the commercial market can also be highly accessible. Note that EPUB is not *always* highly accessible, but EPUB e-books can be optimised for accessibility, often with relatively few changes, and without compromising the experience for any reader.¹

However, print-impaired readers often need extra information about the accessibility options provided by a particular book. Particular readers have particular requirements, and not every book can provide all possible options – so metadata *about* the book can help highlight whether the book is accessible to a specific reader.

Within ONIX, most metadata relating to accessibility is carried in the <ProductFormFeature> data element. This uses ONIX codelist 196 to specify particular accessibility options that are provided by the product. (Note that Product form feature is also used for other purposes, such as specifying the ‘green’ credentials of the paper used in manufacturing printed books or detailing technical requirements for use of a digital product. And clearly, Product form feature is only one data structure among many that comprise the full ONIX description of an e-book product.)

However, ONIX draws a clear line between accessibility features of the e-book (which might not be shared by other books) and accessibility features provided by the reading system (which might be shared by most books read on that technical platform). Typical reading system features include on-screen text resizing, or basic text to speech functionality, whereas typical features provided by the e-book itself include navigation facilities, textual descriptions of illustrations or the use of typographic designs that don’t present a barrier to dyslexic readers. These can’t be delivered to the reader by the reading system unless they are present in the e-book itself. And perhaps the most important provision is that the e-book should not deliberately or inadvertently disable any of the accessibility functionality provided by the reading system.

<ProductFormFeature> and Codelist 196 in ONIX provides for granular description of particular accessibility features of the e-book, and can also specify the e-book’s conformance with particular accessibility standards and provide links to further detail. ONIX does not describe reading system functionality.

It is worth remembering that accessible e-books made available via an *inaccessible* supply chain remain fundamentally inaccessible to print-impaired purchasers and readers. Not only should publishers make their products as accessible as reasonably possible – and advertise that in their metadata – but data aggregators and retailers should make use of that metadata, presenting the

¹ It’s not the intention of this paper to detail exactly *how* to ensure optimal accessibility of your e-books. A good place to start would be <http://kb.daisy.org/publishing/>

accessibility information to potential buyers and readers, and of course they should ensure their online presence or storefront is accessible too.

Finally, why add accessibility metadata to ONIX when similar metadata may also be inserted in the EPUB itself? Because print-impaired purchasers need to know *before purchase* – and even before publication – whether the e-book will meet their needs. If distributed within the standard ONIX metadata, data aggregators, libraries and retailers can be aware of the level of accessibility of a particular e-book before the book itself is available, and can present this information to potential purchasers and readers within their catalogue.

Using <ProductFormFeature>

Product form feature is an optional and repeatable ‘composite’ structure within ONIX. The general structure follows this pattern:

```
<ProductFormFeature>
  <ProductFormFeatureType>09</ProductFormFeatureType>
  <ProductFormFeatureValue>10</ProductFormFeatureValue>
</ProductFormFeature>
<ProductFormFeature>
  <ProductFormFeatureType>09</ProductFormFeatureType>
  <ProductFormFeatureValue>13</ProductFormFeatureValue>
</ProductFormFeature>
<ProductFormFeature>
  <ProductFormFeatureType>09</ProductFormFeatureType>
  <ProductFormFeatureValue>15</ProductFormFeatureValue>
</ProductFormFeature>
<ProductFormFeature>
  <ProductFormFeatureType>09</ProductFormFeatureType>
  <ProductFormFeatureValue>02</ProductFormFeatureValue>
  <ProductFormFeatureDescription>https://www.foo-accessibility-
    testing.com/9780001234567#wcag-a</ProductFormFeatureDescription>
</ProductFormFeature>
```

Each repeat of the <ProductFormFeature> structure describes a single accessibility feature of the e-book. Feature type 09 simply means that the Feature value is taken from List 196, and the meaning of each Feature value is defined in the codelist. The above example indicates that no standard features of the reading system have been disabled (code 10), the text is arranged in a single logical reading order - which improves the usability of any text-to-speech functionality provided by the reading system or add-on assistive technology (code 13) – and that each illustration is accompanied by a full alternative textual description (code 15). Finally it states (code 02) that the product meets the requirements of the EPUB Accessibility Specification standard version 1.0 at level A, as certified by Foo’s Accessibility Testing (and more details can be found at the provided URL).

- The latest version of List 196 can be viewed at <https://ns.editeur.org/onix/en/196> (languages other than English are also available). Each code and heading also has accompanying notes (click ? or * to view within the multilingual interactive browser)
- The Product form feature structure is identical in ONIX 2.1 and 3.0
- One of the key values that should be specified whenever possible is the e-book’s level of conformance to the EPUB Accessibility Specification 1.0 (see <https://www.w3.org/Submission/epub-a11y/>). But a conformance statement should not *replace* the feature-by-feature detailed specification
- It may sometimes be valuable to say ‘this book is fundamentally inaccessible’.

Of course, publishers do not hand-type their ONIX metadata as above: most use an off-the-shelf software solution to manage their metadata and to distribute it in ONIX format to their supply chain

partners. E-book publishers should ensure that their software vendor supports the use of the accessibility metadata within their system, and that staff are aware of both the range of accessibility optimisations that can be included in their e-books, how to specify them to third-party vendors, and how those optimisations can be recorded in the metadata.

Inclusion of such accessibility metadata may be measured as part of an industry-wide metadata quality scheme, and the accessibility of each e-book should be checked as part of a proofing or technical quality assurance process before publication of each e-book.

Libraries and e-book vendors in receipt of ONIX should look for this accessibility metadata, and where it's provided, they should expose it in their catalogues – in a highly accessible way. Libraries and retailers should of course ensure their catalogues and storefronts conform to WCAG standards so they are usable by patrons and customers looking for those accessible books.

Other ONIX product attributes that may affect accessibility

- For physical products, Large, Ultra-large print and Braille editions can be specified in <EditionType>
- <EditionType> can also specify Simplified language editions, which may make a book accessible to those with a reading age lower than their interest age, or those reading in their second language
- For digital products, the file format is specified using <ProductFormDetail>. This would include EPUB (often highly accessible even if no further accessibility metadata is provided), PDF (often relatively inaccessible), legacy DAISY version 2 or 3 products (the DAISY specifications have been superseded by EPUB 3). BRF files can be handled just like other 'e-book' file format, being specified in <ProductFormDetail>
- Reflowable or fixed format? <ProductFormDetail>
- Suitable for entirely offline use? <ProductFormDetail> again
- The availability of (pre-recorded) synchronised audio within an e-book (for example within an EPUB) can be specified using <ProductFormDetail>
- The print product to which any print-equivalent page numbering refers can be specified using <RelatedProduct>
- DRM – which often affects or even prevents the use of common text-to-speech software tools and other assistive technology can be specified using <EpubTechnicalProtection>. Note that here and with other XML tags prefixed with <Epub...>, 'Epub' is not limited to the EPUB file format, but applies equally to all e-publications.

Other aspects of the metadata for an accessible e-book are of course the same as for any other e-book. A separate application note *Describing e-books and digital content in ONIX* is available.

EDItEUR
5 Dec 2018