



Accessible Workflows for Inclusive Publishing

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Inclusive Design 24

Presented by:

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About Us



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The National Network for Equitable Library Service

NNELS is a non-profit organization, working towards:

- Advancing the agenda of accessible publishing
- Offering quality employment opportunities for people with print disabilities
- Building and maintaining a repository of digital books in accessible formats for people with print disabilities in Canada, distributed through the Canadian public library network.

Presentation Overview

- Introduction to Accessible Publishing
- Past Projects with Publishers
- 10 Steps to More Accessible Ebooks
- Conclusion

Overview of Accessible Publishing

What is accessible publishing?

- Accessible publishing is publishing that considers the needs of all potential users
- It prioritizes accessibility, and the incorporation of accessibility features (which in turn results in more sophisticated digital content!)
- Accessible publishing is guided by standards, and brought to life by digital reading technologies

Who benefits from accessible publishing?

- Everyone!
- People with print disabilities
 - according to Canada's Copyright Act: Print disabilities are a subset of disabilities that prevent people from reading print. This includes visual, mobility, or comprehension impairments.
 - This includes those with long-term disabilities, and temporary and even situational impairments!

What are assistive technologies?

- Hardware devices or software developed with features that are specifically helpful for people with disabilities.



Image from [X University: Press Books](#)

Assistive Technologies: Reading

- **Screen readers:** Software that reads the text on the screen of a computer or mobile device, enabling a blind person to use a computer or mobile device such as a phone to navigate menus and read within applications.



Image from [NVDA](#)

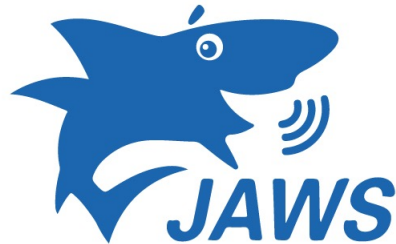


Image from [Freedom Scientific](#)



Image from [Google Play Store](#)



Image from [Apple](#)

Assistive Technologies

Refreshable braille display:

Hardware device which connects to a computer or mobile device and translates text into Braille in real time. The braille encoding is read by touch.



Image by [George Williams](#)

Assistive Technologies

Screen magnification software:

Magnifies a digital / electronic screen, increasing visibility for users with a visual impairment.

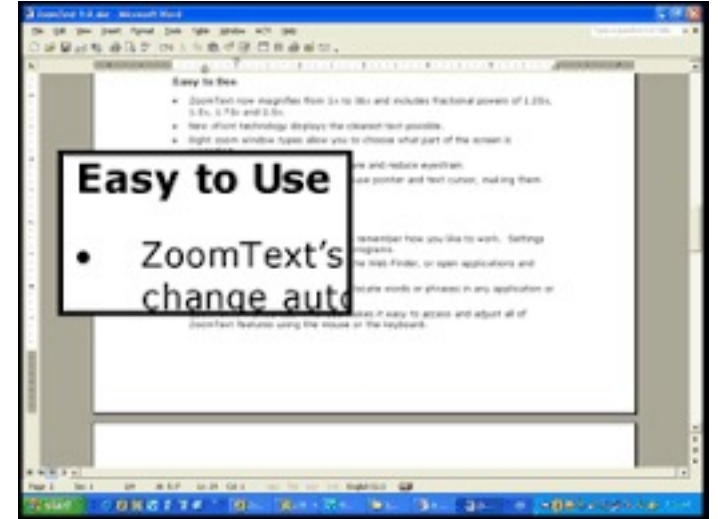


Image from [ZoomText](#)

Assistive Technologies

Eye Tracking Technology: A way of accessing a computer or communication device by focusing the eyes on a picture or area of the screen. The technology determines exactly where a user is looking and operates as an input alternative to a mouse and keyboard.



Image from [Tobii](#)

Diversity of Reading

- Significant diversity of reading needs among people with print disabilities.
 - Blind users rely on screen readers, which provide navigation.
 - Low vision readers: Need control over the way text is presented (changing font size, type; change background and foreground contrast).
 - Readers with dyslexia and other learning disabilities: Benefit from having word-by-word highlighting synchronized with synthetic or narrated speech; customizing presentation
 - Readers with mobility impairments require highly structured content to enable efficient navigation

Why prioritize accessibility?

- Accessibility gives readers **agency** over how they read.
- Legislation is moving towards mandating accessibility, so it makes sense to get ahead of the curve!

Accessible Design & Inclusive Publishing

- Digital books are not automatically accessible; they must follow accessibility standards and guidelines.
- Accessible design is inclusive of people with disabilities.
- Accessibility, in design terms, refers to the qualities that make a product or service open to, and usable by, all.
- For ebooks to be accessible, they need to be flexible, so that everyone can use them, regardless of the tools or means they use to access them.

Accessible Design & Inclusive Publishing

- An inclusive product is 'born accessible' when it is designed to work for as many people as possible right from the start, without modification.
- Accessibility is essential, and not an add-on. In short, inclusive design is meant to account for all experiences.

When inclusion is a consideration from the start, accessibility can become an organic part of a workflow. It can mean increased efficiency and a superior product, while at the same time it can minimize remediation costs if accessibility barriers remain.

Born accessible content

- Making born accessible content fosters inclusion and full participation in society.
- Publishers need to build accessibility into existing publishing formats and workflows, and create content that is designed to be inclusive from the beginning.
- All those who contribute to the book publishing process can play a role in creating born-accessible publications.

Past Work

AKA: How we learned so much!

Past publisher projects

- Accessibility audits of EPUB files and workshops to publishers. Over 100 accessibility ebook audits since 2018 for 40+ Canadian independent publishers.
- Training on accessible publishing via workshops and webinars for publishers and related organizations on e-book accessibility.
- Educational video series for publishers on how to make accessible ebooks.
- Since 2019, NNELS convenes an annual Accessible Publishing summit, bringing together multiple experts to share knowledge and expertise.

Accessibility expertise

- Readers with disabilities are accessibility experts: they know what works for them, they can identify barriers and find solutions.
- NNELS' team of accessibility testers includes individuals with a broad range of print disabilities, including blindness, low vision, and learning disabilities.

Publisher Workflows Project

- Project goals:
 - learn about publishers' workflows;
 - assist publishers in the creation of accessible books and accessible workflows; and
 - develop best practices around introducing accessible workflows into the publishing cycle
- Participating publishers covered all genres and levels of accessibility knowledge
- Hands-on instruction and individualized feedback allowed publishers to truly contextualize the concepts of accessible publishing within their own work.
- Best practices and guidelines for producing accessible content

Atlantic Publisher's Marketing Association

- Project goals:
 - learn about the resources, technology, and capacity of APMA publishers to work toward publishing books that are accessible;
 - assist publishers in the creation of accessible books and accessible workflows; and
 - provide information to empower publishers to begin, or continue to improve on, publishing accessibly.

Atlantic Publisher's Marketing Association

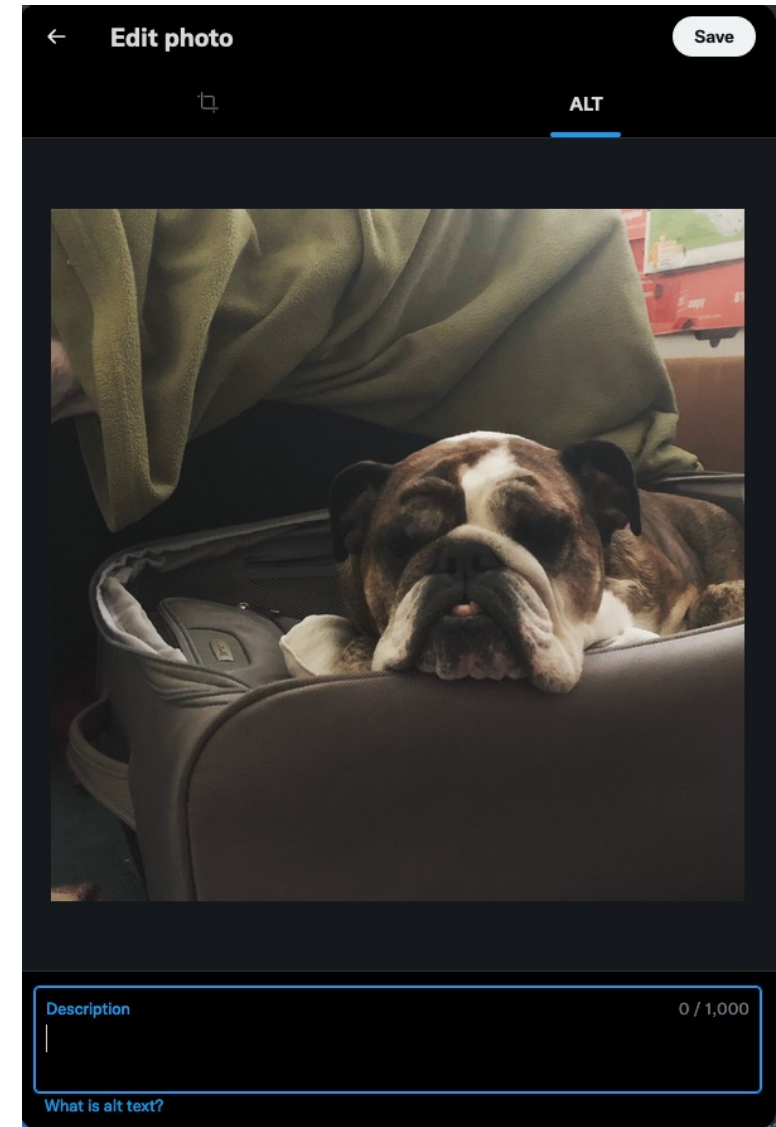
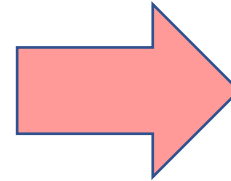
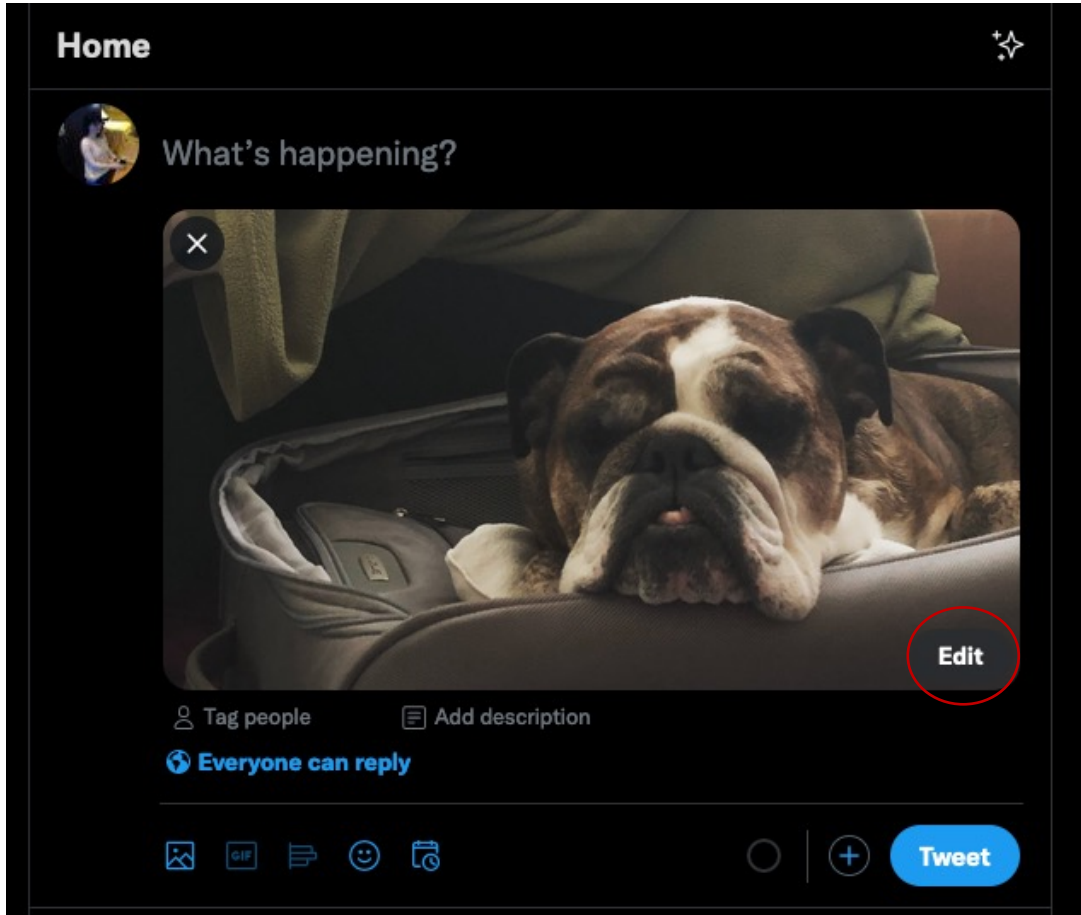
- The project was directed at all publishers within a specific region; the skill levels and knowledge of the participants varied significantly.
- Publishers benefited from having detailed accessibility evaluations on their EPUB files.
- NNELS created and delivered workshops with information that was key for further developing publishers' capabilities.
- Publishers also posed specific questions and were able to quickly access help from the NNELS testing team.
- Some publishers found the NNELS resources to be very valuable as they began creating their **first** EPUB 3 books.

Baby Steps to Accessible Ebooks

Image Descriptions: Do's and Don't's

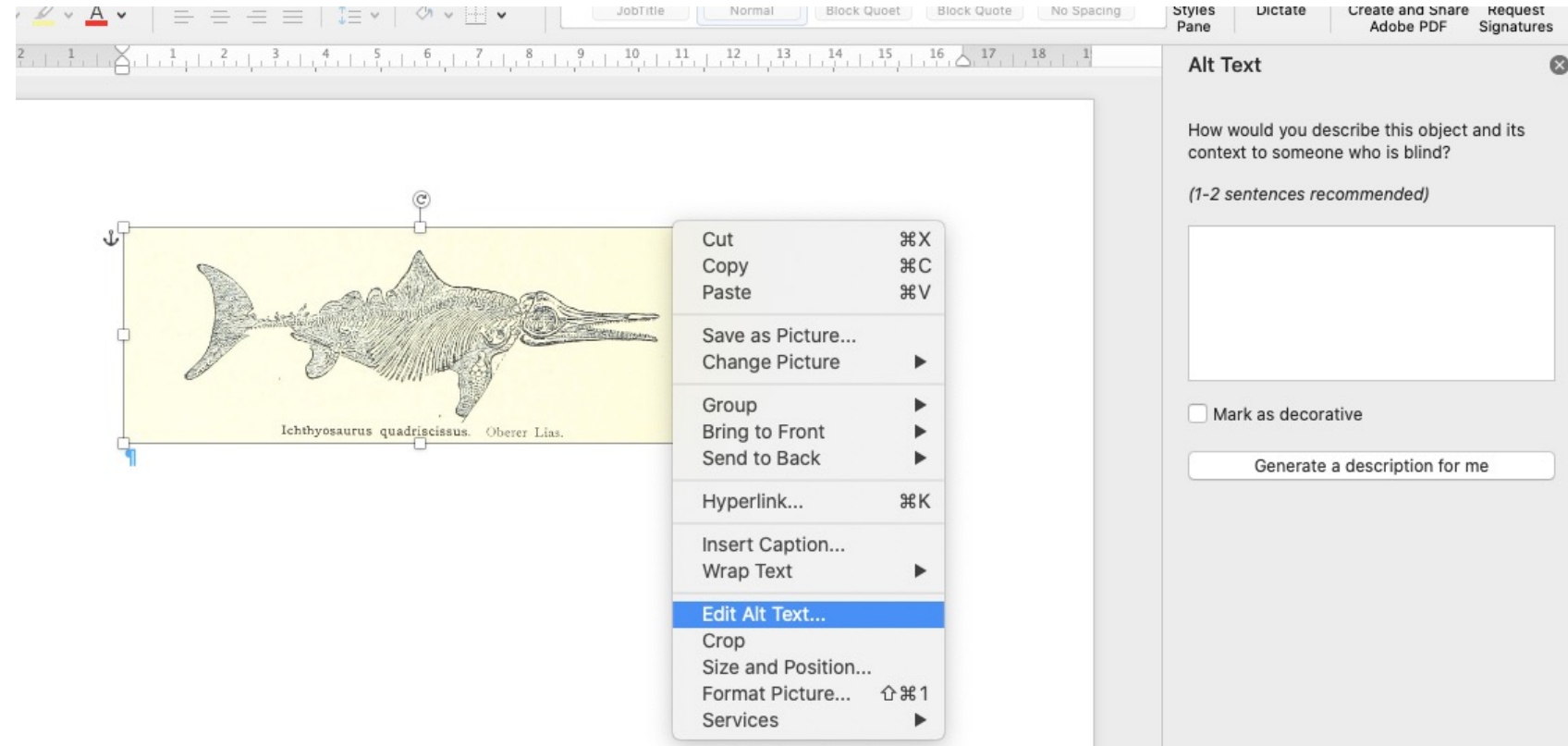
- DO include image descriptions for the cover of a book.
- DO think about the image description as a replacement for the image – not a supplement.
- DO try and involve the author or content creator in writing the descriptions.
- DON'T rely on automatically generated descriptions!
- DON'T leave filenames in the alt attribute.
- DON'T censor.

Adding Image Descriptions On Twitter



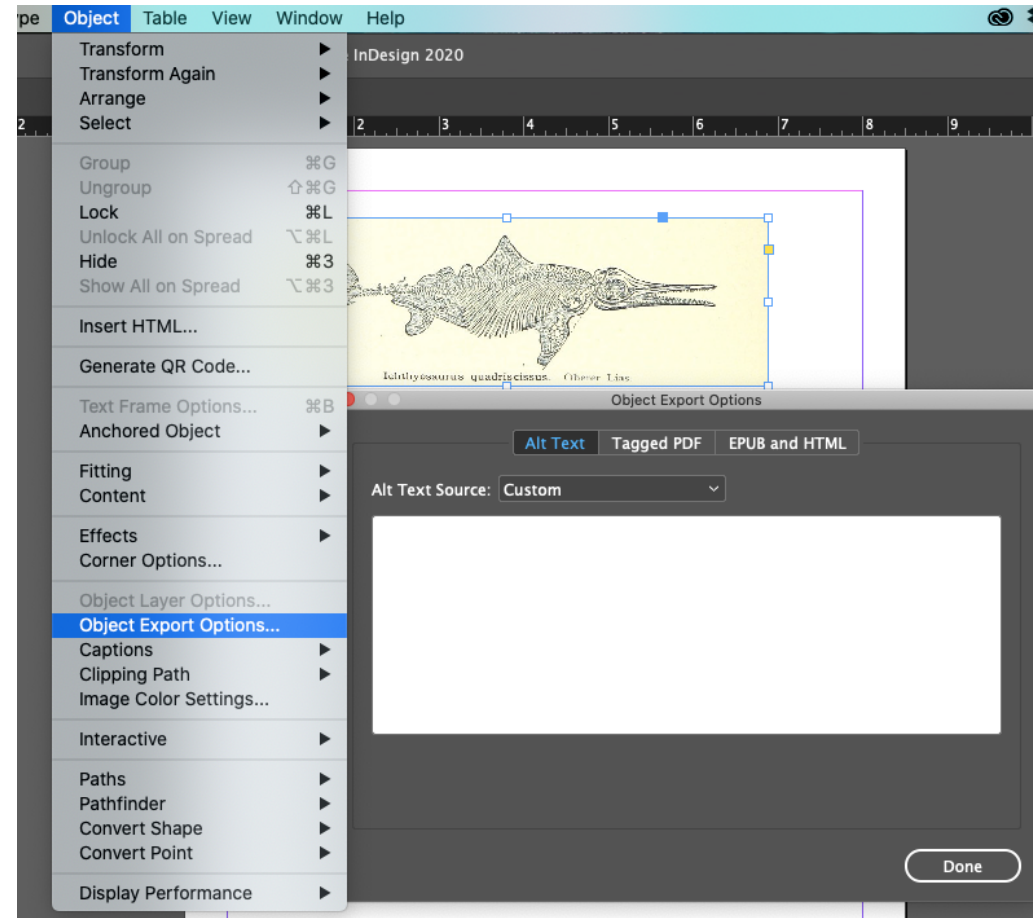
Adding Image Descriptions In Word

In Word, simply right-click on an image, and select “Edit Alt Text”



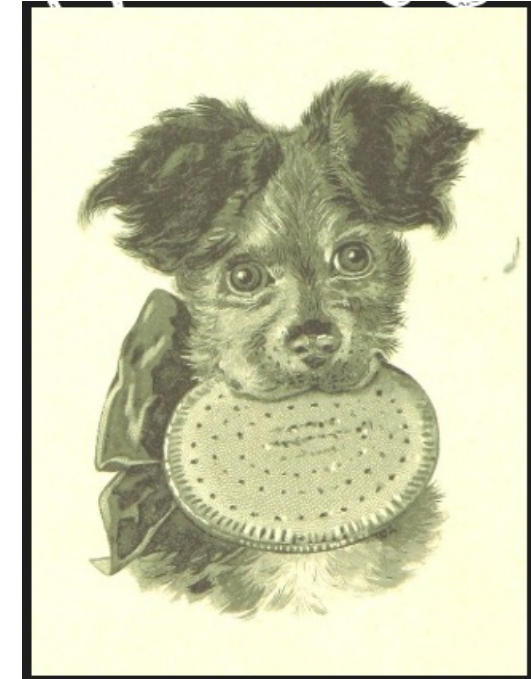
Adding Image Descriptions In InDesign

- With the image selected, open “Object Export Options” (right click on the image, or open via the Object menu)
- In the Alt Text tab, select “Custom” from the dropdown list
- Add your alt text. Alt text inserted here will be exported with the EPUB



Adding Image Descriptions In the Code

- Using Sigil, BBEdit, or another program, open up the book
- Within each set of `` tags, there may already be an "alt attribute". If not, it is simple to add!
- ``



Document <title> element

<title> elements should be unique for each document in a book – this is great for web pages, too!

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE html>
<html lang="en" xmlns="http://www.w3.org/1999/xhtml" xmlns:epub="http://
www.idpf.org/2007/ops">
<head>
<title>The Haunted Orchard</title>
<link rel="stylesheet" type="text/css" href="9780123456789_style.css"/>
<meta charset="UTF-8" />
</head>
```

Quick tutorial video: [Updating Document Titles](#)

Language Declarations

- There are three places to add language declarations:

- In the `<package>` element of the OPF file

```
<package version="3.0" unique-identifier="PrimaryID" prefix="ibooks:  
http://vocabulary.itunes.apple.com/rdf/ibooks/vocabulary-extensions-1.0" xml:lang="en-CA"  
xmlns="http://www.idpf.org/2007/opf">
```

- In the `<dc:language>` field in the OPF file

```
<dc:language>en-CA</dc:language>
```

- In the HTML header of each document

```
<html lang="en" xml:lang="en" xmlns="http://www.w3.org/1999/xhtml"  
xmlns:epub="http://www.idpf.org/2007/ops">
```


Language Declarations

OPF <package> element:

```
<?xml version="1.0" encoding="utf-8"?>  
<package version="3.0" unique-identifier="bookid" prefix="ibooks: http://  
vocabulary.itunes.apple.com/rdf/ibooks/vocabulary-extensions-1.0/"  
xml:lang="en-US" xmlns="http://www.idpf.org/2007/opf">
```

<dc:language> field:

```
<dc:title>Famous Modern Ghost Stories</dc:title>  
<dc:language>en-CA</dc:language>  
<dc:identifier id="PrimaryID">9780123456789</dc:identifier>  
<dc:creator id="creator">Various Authors</dc:creator>
```

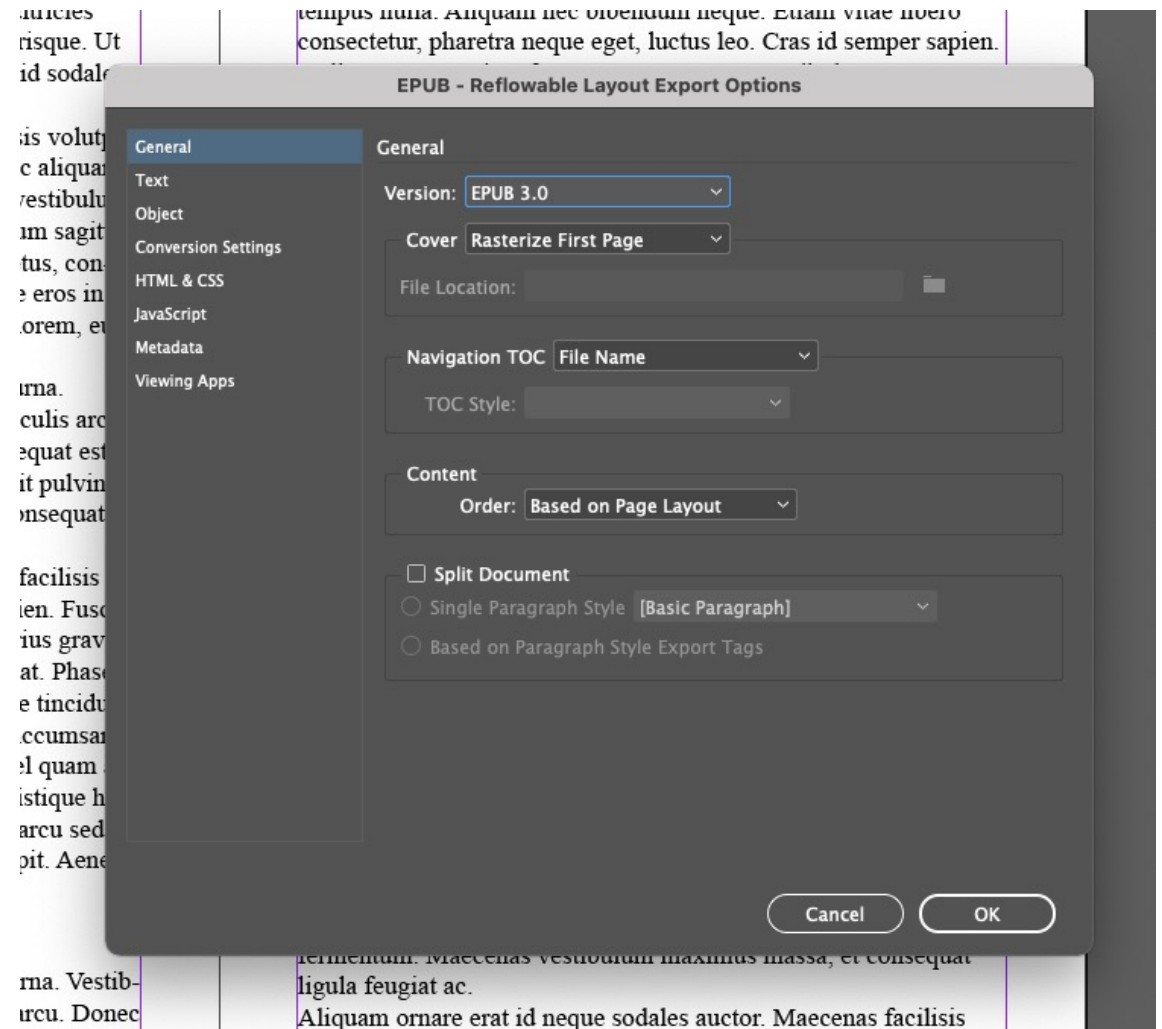
HTML header:

```
<html lang="en" xml:lang="en" xmlns="http://www.w3.org/1999/xhtml"  
xmlns:epub="http://www.idpf.org/2007/ops">
```

Quick tutorial video: [Language Declarations in EPUB Files](#)

Publishing in EPUB 3

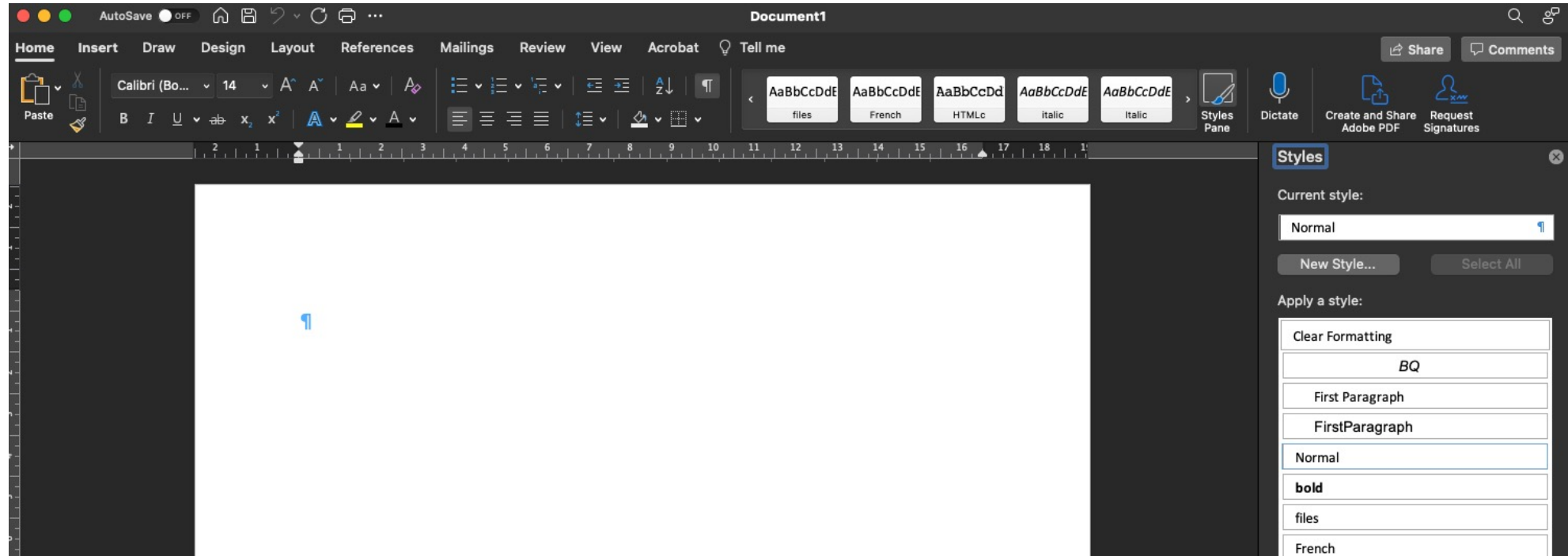
- Choose to export in EPUB 3!



Use Heading Semantics

- Use `<h1>` to `<h6>` for headings, instead of simply styling text in other ways
- In Word, use Word's Styles (not technically HTML, but it is valuable – the styles will be carried into PDFs, and can even be maintained into InDesign)
- In InDesign, associate heading styles with HTML

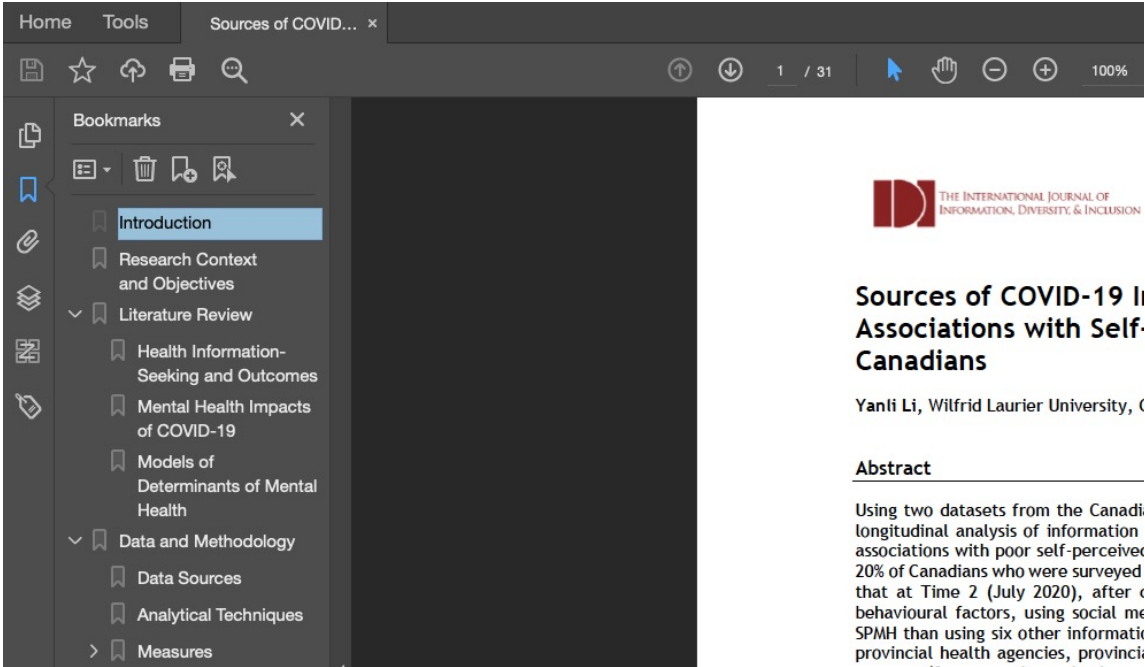
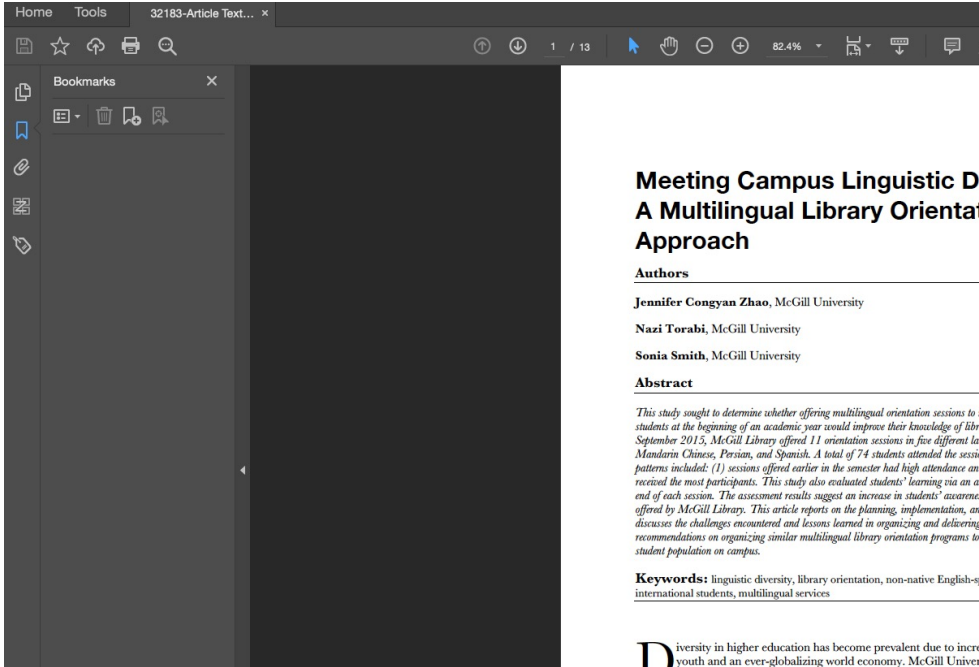
Use Heading Semantics In Word



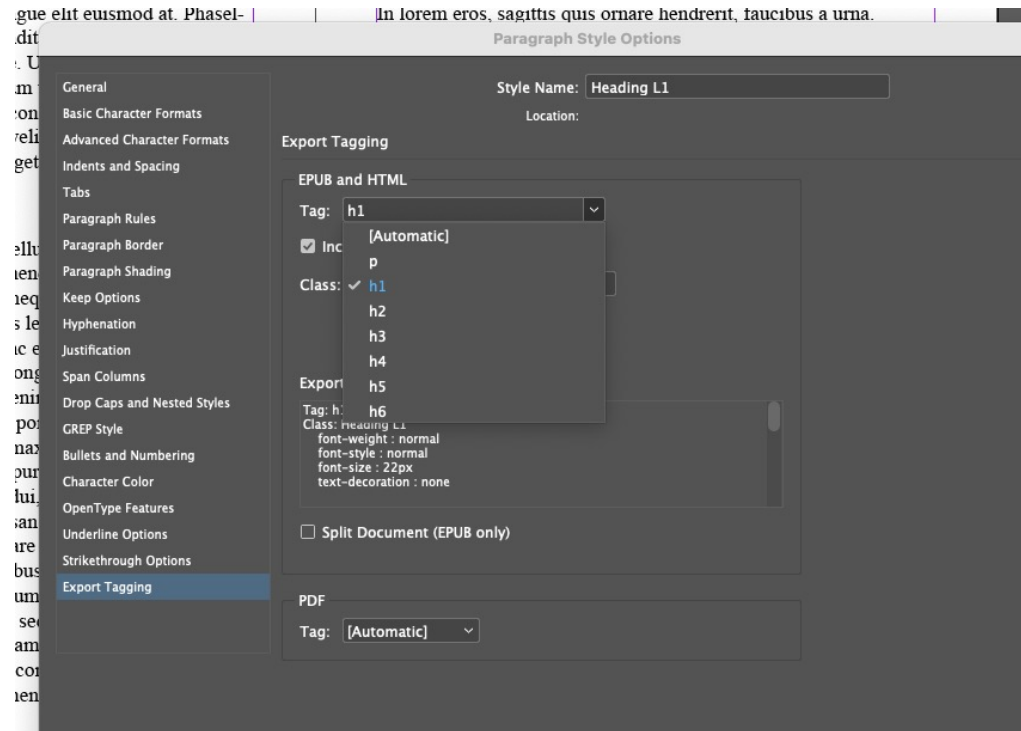
Video Tutorial: [Using Word's Styles](#)

Use Heading Semantics

Word to PDF



Use Heading Semantics In InDesign



Video Tutorial: [Optimizing Word Documents for InDesign & Accessibility](#)

Using `<hr>` element for Context Breaks

- `<hr>` elements are the best context break markers, because they may be navigable
- The default is a horizontal rule, but it can be anything, including:
 - An image
 - Blank space
 - A character, or set of characters
- [Fun options for styling](#)

Using <hr> element for Context Breaks

For a textual character (like a *): *In the HTML:*

In the CSS:

<hr>

```
hr {  
  overflow: visible;  
  border: none;  
  text-align: center;  
}
```

```
hr:after {  
  content: "*";  
  display: inline-block;  
  position: relative;  
  font-size: 1em;  
  padding: 1em;  
}
```

Using `<hr>` element for Context Breaks

For blank space (like a *):

In the CSS:

```
hr {  
border:none;  
}
```

In the HTML:

```
<hr>
```


Using <hr> element for Context Breaks

For an image:

Check out the [DAISY Knowledge Base: Context Breaks](#). Example 2 demonstrates what code to use in the CSS and the HTML document to achieve a context break with an image.

Use CSS for styling (toddler run)

Drop caps:

Add this to the CSS document:

```
<style>
.FirstParagraph {
display: inline-block;
}
.Dropcap, .FirstParagraph::first-letter {
font-size: 2.5em;
font-weight: bold;
}
</style>
```

- **In the text:**

```
<p class="FirstParagraph">One of the most important principles to be observed in
```

- `<p class="FirstParagraph">It was a dark and stormy night when the cowboy set out in search of adventure.</p>`

One of the most important

```
.FirstParagraph {
display: inline-block;
}

.Dropcap, .FirstParagraph::first-letter {
font-size: 2.5em;
font-weight: bold;
}
```

Use CSS for styling (toddler run)

Uppercase lettering:

Add this to the CSS document:

```
<style>
span.smallCaps {
font-variant: small-caps;
}
</style>
```

I CANNOT, FOR MY SOUL, REMEMBER HOW, when, or even precisely where,

```
span.smallCaps {
font-variant: small-caps;
}
```

```
<p><span class="smallCaps">I cannot, for my soul, remember how,</span>
```

In the text:

```
<p><span class="smallCaps">I
cannot, for my soul, remember
how,</span>...
```

Use the Ace Accessibility Checker

- The [Ace by DAISY App](#) is a free EPUB accessibility checker developed by the [DAISY Consortium](#)
- This automated program will identify around 30% of common accessibility errors, which is a great start!



Image from [Ace by DAISY](#)

Include Accessibility Metadata

- Metadata can be used to outline the accessibility of a file, and is a requirement for passing the Ace by DAISY Accessibility Checker
- There are four required tags, and one recommended:
 - accessMode: how a publication can be read
 - accessModeSufficient: the sufficient reading modes (recommended)
 - accessibilityFeature: what accessibility features have been included
 - accessibilityHazard: warnings for potential features which might be an issue
 - accessibilitySummary: a human-readable overview of the accessibility of the text

Accessibility Metadata Example

```
<meta property="schema:accessibilitySummary">This Publication meets the
requirements of EPUB Accessibility specifications. The content is screen-reader
friendly. Images are described, and sections are introduced with correctly-
cascading headings.</meta>
<meta property="schema:accessMode">textual</meta>
<meta property="schema:accessMode">visual</meta>
<meta property="schema:accessModeSufficient">textual,visual</meta>
<meta property="schema:accessModeSufficient">textual</meta>
<meta property="schema:accessibilityFeature">structuralNavigation</meta>
<meta property="schema:accessibilityFeature">alternativeText</meta>
<meta property="schema:accessibilityHazard">none</meta>
```

Accessibility Metadata Example

```
<dc:publisher>Zag Press</dc:publisher>  
<dc:date>2016-11-20</dc:date>  
<meta property="dcterms:modified">2021-09-21T20:03:06Z</meta>  
<meta property="schema:accessMode">textual</meta>  
<meta property="schema:accessMode">visual</meta>  
<meta property="schema:accessModeSufficient">textual,visual</meta>  
<meta property="schema:accessModeSufficient">textual</meta>  
<meta property="schema:accessibilityFeature">alternativeText</meta>  
<meta property="schema:accessibilityHazard">sound</meta>  
<meta property="schema:accessibilitySummary">This publication has no major violations in the ACE by Daisy A
```

Adding Accessibility Metadata with Ace by DAISY!

dc:publisher	Zag Press
dc:title	Famous Modern Ghost Stories
dcterms:modified	2021-09-21T20:03:06Z
schema:accessMode	<ul style="list-style-type: none">• textual• visual Yes
schema:accessModeSufficient	<ul style="list-style-type: none">• textual,visual• textual Yes

Rows per page: 10 ▾ 1-10 / 14

Missing accessibility Metadata:

- a11y:certifiedBy
- a11y:certifierCredential
- a11y:certifierReport
- dcterms:conformsTo
- schema:accessibilityControl

Violations

No violations reported.

EDIT ...

SAVE (ZIP / EPUB)

Knowledge

Settings

Adding Accessibility Metadata with Ace by DAISY!

schema:accessMode

visual

schema:accessModeSufficient

textual x visual x

schema:accessModeSufficient

textual x

schema:accessibilityAPI

ARIA

schema:accessibilityFeature

alternativeText

schema:accessibilityHazard

sound

schema:accessibilitySummary

This publication has no major violations in the ACE by Daisy App, and conforms to WCAG 2.0. Images are described, and there are several levels of navigation. Each part begins with an audio clip; it is not known to contain any element that may cause seizures.

Play with the Code

- Using [BBEdit](#) or [Sigil](#) is a great way to get into the code of an EPUB
- Always make sure you have a back-up, in case something gets messed up!
- Play with the CSS, update document <title> elements, add language declarations... go wild!

Conclusion

The Steps to Building an Accessible Workflow

- 1. Awareness:** Start talking about accessibility. It is important for everyone involved in the book production cycle to understand what accessibility for readers with print disabilities means.
- 2. Starting small:** You don't need to try to incorporate every accessibility feature at once; start where you feel comfortable and keep building with each publication.
- 3. Ask for assistance:** Reach out to experts working on accessible publishing.

Get in touch!

- Follow us on Twitter: @[NNELSca](#)
- Check us out on YouTube: [NNELS Canada](#)
- Email us at: info@accessiblepublishing.ca
- [Submit an accessible publishing question!](#)

NNELS Resources

- [AccessiblePublishing.ca](https://accessiblepublishing.ca)
 - [Best Practices for Publisher Workflows](#)
 - [Accessible Publishing Best Practices: Guidelines for Common EPUB Issues in Plain Language](#)
 - [Guide to Image Descriptions](#)
 - [Accessibility Checklist for Conversion Houses & Ebook Producers](#)
 - [InDesign Guide](#)
 - [App & Scripts for EPUB Accessibility](#) (DropToScript, StyleCleanup)
 - [Evaluating Your EPUB's Accessibility](#)
 - [Accessibility Features Checklist](#)
 - [EPUB Semantics, ARIA Roles, & Metadata](#)
 - [Reports on Library Reading Apps](#) (Libby, OverDrive, Rbdigital, PressReader)

NNELS Resources

- [NNELS YouTube](#)
 - [A Crash Course in Ebook Accessibility](#)
 - [Reading Systems Tutorials for Screen Reader Users](#)
 - [Common Accessibility Issues in EPUB Files](#)
 - [Library Reading App Reviews](#)
 - [Updating Document Titles](#)
 - [Language Declarations in EPUB Files](#)
 - [Optimizing Word Documents for InDesign & Accessibility](#)
 - [Quick Overview on using Word's Styles](#)

Additional Resources

- Best Practices

- [Accessible Publishing Best Practice Guidelines for Publishers](#) (Accessible Books Consortium)
- [Inclusive Publishing in Australia: An Introductory Guide](#)
- [The BISG Quick Start Guide to Accessible Publishing](#)
- [DAISY Accessible Publishing Knowledge Base](#)
- [Accessible EPUB 3](#)

- Image Description

- [Cooper Hewitt: Guidelines for image description](#)
- [DIAGRAM Centre](#): an initiative of Benetech, has developed [image description guidelines](#), [a training tool](#), and more
- [WEBAim: Alternative Text](#) (geared towards content on websites but it has some great suggestions for writing concise alt-text)

- Working with InDesign

- [Laura Brady \(2018\): EPUB Accessibility Using InDesign \(a Lynda.com course\)](#)

Additional Resources

- Video Resources
 - [DAISY Consortium \(2019\): AccessText Network accessible publishing webinar series](#)
 - [DAISY Consortium \(2020 – ongoing\): Webinar Series on Accessible Publishing and Reading](#)
- Accessibility Evaluation
 - [Ace By DAISY Desktop App](#)
- EPUB Semantics, ARIA Roles, & Metadata
 - [Floe Inclusive Learning Design Handbook: Semantic Markup in EPUB 3](#)
 - [International Digital Publishing Forum: EPUB Type to ARIA Role Authoring Guide](#)