



Keeping up accessible habits in your CMS

Drupal Client Meet-up

September 18, 2025

Hello and welcome! Today, today we're excited to talk about usability and accessibility in a content management system as it relates to the content creation. I'm happy to see so many of our Drupal clients present today, and I see you are at various stages of maintaining your websites or preparing to do so in the future, so this information will be relevant to you whether you have an implementation underway with us or have already launched.

As we go, we welcome you to put any questions in the chat and we'll keep an eye on it to cover those as we go.

The role of content in accessibility

-  designs and builds its sites to address and prevent issues of accessibility and usability, but content creation plays a big role.
- It's not 'set it and forget it'.
- Sites often accumulate content over time, and this can impede overall accessibility of your site experience.



 designs and builds its sites to optimize accessibility and minimize the potential for content contributions that impede accessibility and usability. For instance, we don't typically allow text color selection in the formatting options in a rich text editor, because we want to prevent a content writer from selecting a text color that will not have adequate contrast with your page backgrounds, and we want to enforce a certain stylistic consistency (which also relates to accessibility of the site experience). But implementation choices don't **entirely** eliminate the potential that content is added to the site that runs against an accessibility standard or best practice.

It can be easy to lose track of the fact that, despite having a modern, well-constructed and well-designed website platform, there is still some room for content to influence the site's user friendliness, inclusivity, and accessibility. So my

focus today is going to be on recommended practices for content management. These are meant to be ideas and reminders that you can bring back to your content teams.

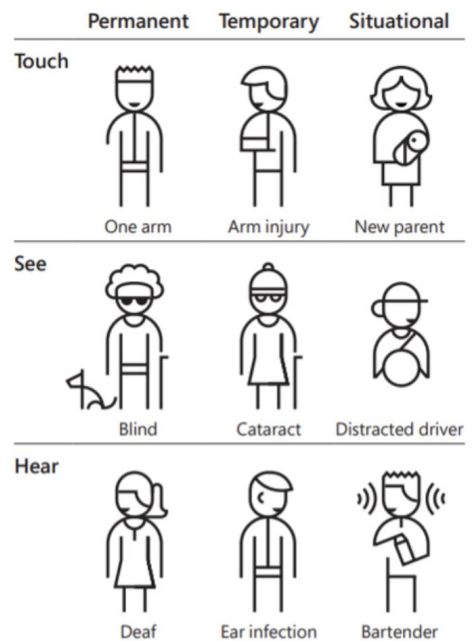
Can anyone think of an example of content that can be added to your site that you think might result in an accessibility failure?

Ok, before we move on, let's check out a pop quiz question on the role of accessibility in our lives:

'True or false: We all experience some form of 'disability' at some point in our lives, even if that impediment is just situational or temporary.' (TRUE)

It matters even more than you might think

- Even those who don't have a permanent disability benefit from accessibility-related considerations.
- We are all on a spectrum of abilities.
- The rate of use of assistive technologies varies - some individuals do not have severe enough needs to require this technology. Due to barriers like cost, some people who could benefit from assistive technology don't have access to it.



One thing to keep in mind is that we all fall on a spectrum with respect to our abilities in using digital systems. I like this diagram, which I believe originated with Microsoft, because it illustrates why we all experience circumstances that impact our ability to interact with a computer or digital device. The more we account for practices that benefit those who have a disability, the more we're making experiences friendly to those who might not have a permanent or ongoing need.

Our clients do have an appreciation for the need for their web content to be perceivable by assistive technology like screen readers. But another detail to keep in mind, is that in reality a lot of users who have some form of disability do not use assistive technology. Consider someone with imperfect motor control, who does not use disability-related devices to browse the internet. These 'middle of the road' users may not have full faculties in terms of sight, hearing, motor and

cognitive abilities, yet they might not have the level of impairment that necessitates something like a screen reader. So considering how users of different abilities encounter your content, with and without assistive tech, is important.

So let's dig into some content practices that are important to avoid issues that often fly under the radar of accessibility controls and checkers, as is often the case with accessibility issues that are introduced with CONTENT rather than with CODE.

Before we talk about our first content practice, here's a pop quiz question:

True or false: Imagery that has text embedded in it is safe to use, as long as your alt text replicates any text that is present in the image.' (FALSE)

Image choices

Imagery is one avenue through which several accessibility-related issues can be introduced.

- Avoid using imagery that has text built into it.
 - Images may not resize appropriately to keep text visible and legible.
 - Alt text can ensure users of assistive technologies perceive the text, but the text in the image may not comply with size or contrast requirements for visual access.

Some helpful resources:

[Princeton Accessibility Resource on Imagery](#)

[Harvard Article on Writing Alt Tags](#)



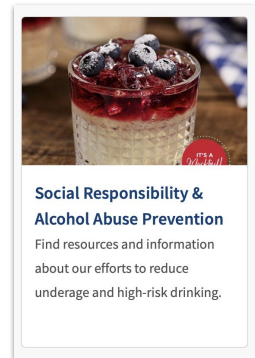
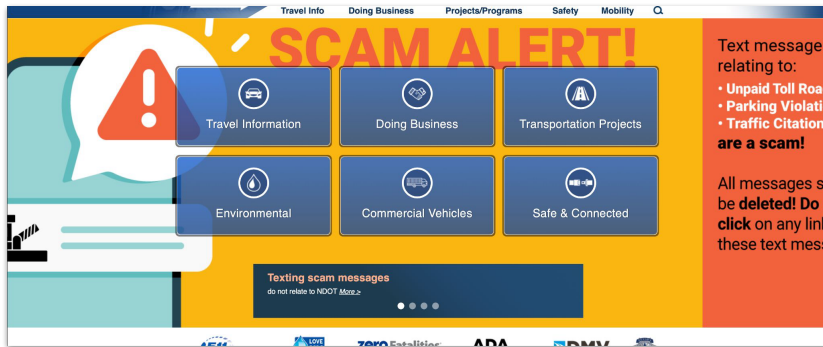
Avoid the use of imagery that has text built into it, such as marketing graphics. Sometimes we even see things like phone numbers or other instructional text built into images. While you can increase conformance with WCAG by entering alt text for the image that replicates the graphic text, that does not sufficiently ensure accessibility of that content.

Firstly it can be hard or impossible to compose the graphic in a way that it does not crop the text at any screen size. Image resizing is not responsive the same way HTML text content is - typically the image is simply reduced in size to fit the smaller region - so on mobile, text embedded in the image may be too small or it may be cropped. There is nothing systematic that ensures the text inside an image meets the necessary size and color contrast requirements, the way HTML-based page content works. An automated scan most likely would not flag text within an image that has inadequate color contrast for readability.

While we're talking about image choices, I want to touch on a related practice, which is writing good alt tags.

- Our implementations commonly do require alt text be present on media that is uploaded for use on the site, and accessibility scans are starting to provide feedback when alt text is lacking in some way, such as that it contains a URL. But, depending on how it is written, the alt tag itself may still not provide the user with meaningful information.
 - We have explored the concept of imagery can be deemed decorative, and the option to not use alt tags and not have screen readers attempt to consume those, but there are varying preferences on this in the accessibility community.
 - We have also explored the use of AI to provide draft alt text copy, to assist the content manager uploading imagery.

Examples of inaccessible text in imagery



Here are a couple examples I found on government sites that reflect imagery built into the graphic or image. You can see that the text is being cut off in these components. The example of the scam alert is problematic because that information appears to be really important, but is not fully legible. It also presents a potential challenge based on color contrast and it's unknown whether the image alt text makes that information available to screen readers. If it does, those users are better off than sighted users because that information cannot be read visually at all.

Reading level

Know your target reading level and how to meet it.

To improve in this area:

- Help ensure content owners know the proper target reading level for your website.
- If you have a decentralized content management model or are moving towards that, consider adding a tool like Editoria11y for real time editing support and feedback telling the writer the reading level of their text.
- Use a tool like [Hemingway Editor](#) to get a reading level assessment of any copy you're preparing or editing, and adjust as needed to make it meet the target level.

Helpful resources: [Drupal modules that focus on this](#) [Plainlanguage.gov](#)



- As for your proper target reading level, the first question to ask is whether this has been formally established by your organization. If not, consider who you can work with to get a target level set and how that would be communicated to website stakeholders and content contributors.
 - It may be that you have several acceptable reading levels that get applied to different sections of your site. A common target level for websites aimed at the general public is 8th grade. But you may have specific pages or sections that are targeted at an audience for which it is appropriate to target a higher reading level. Pages aimed at providers, specialists, or industry professionals in particular may have a different reading level target, or otherwise be exempted

- from the general target level for the site.
- In terms of MEETING your target reading level, when writing for the web, it can be easy to depart from your target. Your content may particularly be at risk for this if you lean on internal subject matter experts whose knowledge and expertise cause them to lean too complex in their writing. Your site may also be susceptible if you rely on a 'de-centralized' network of content contributors, versus a more centralized model in which there is a small team responsible for communications writing or reviewing all web content. Addressing this starts with training and awareness by content managers so that any contributed content is written with a target in mind.
 - A regular review, scan, or audit can help identify pages that have failed to comply with your target reading level.
 - Content governance - meaning the process by which content gets updated in the site (made live, and visible to end users) - can play a helpful role. Governance that involves a review by another person can help apply extra scrutiny that newly crafted content uses adequately simple wording.
 - There are some newer Drupal modules that have become available that can provide real-time feedback for text content as it is being written. Some use LLMs to provide the rating, so they should be considered on a project by project basis.
 - And as this slide mentions, Hemingway is a great, standalone tool that is available for free. Accessed via browser, you use it by manually

- entering text into it (by typing or pasting) and it will provide a reading level rating. You can also edit your copy right within the tool to see how content changes impact the reading level or your work, and then when it meets your needs, copy it into your CMS or wherever you are staging new content.

Our next topic relates to the use of h-tags. Here's a quiz question before we dive in.

'True or false: When using subheaders on your page, it is generally not proper to 'skip' headings, such as by putting an h4 header within an h2 section.' (TRUE)

H-tags

Know what h-tags are for and how to use them properly.

Proper h-tag use involves:

- Avoiding the use of h-tag for emphasis.
- Not skipping h-tags in sequence.
- Keeping subheader text brief, not full sentences.
- Recognizing this is one of the tougher ones for site scanners to detect and judge accurately; it requires careful content creation and awareness.



- htags are used in HTML content to designate certain text as subheadings on your page. It causes them to be styles with more prominence compared to body copy or paragraph text, but it also carries with it a semantic mark-up that reflects the organization of the page, or the position of that text in the overall organization of the page.
- This is one of the functions we see misused most by agencies who are managing website content. The use of numbered h tags provides both visual organization and semantic markup so that assistive technology can appropriately register the content on the page in terms of its hierarchy. They carry meaning, so if the meaning is not intended, they should not be used.
- Some inappropriate practices we see with respect to h tags:
 - Using h-tag assignment for emphasis. Ooooh this

- is tempting. You have a page and it has one really important message you want to make sure is super prominent. Applying an h2 or h3 style to it achieves that prominence, but it is non-sensical in terms of the meaning that the h tags carry in terms of content hierarchy. You've essentially designated that text a title when isn't really playing that role on the page.
- Skipping h-tags in sequence. Sometimes an author's creative preferences come into play, they may feel like they dislike the size or style of one of the nested h styles available, so they will use the one they prefer visually. But you really need them to be used in sequence for the logic of their relationship to hold up.
- let's check out a side by side example...

Let's compare the use of h-tags

✓ CORRECT

h1 Page Title

1. h2 Header
 - a. Body - Child content within, which is normally body copy text formatted in sentences.
2. h2 Header
 - a. h3 Header
 - i. Body - Child content within - more copy here.
 - b. h3 Header
 - i. Body - Child content

✗ INCORRECT

h1 Page Title

1. h3 Header
 - a. h2 emphasized text!
 - b. Body - Child content within, which is normally body copy text formatted in sentences.
 - c. h2 Header
 - i. h4 Header
 1. Body - more copy here.

I've mocked up two excerpts of nested copy on this slide. Take a look at what makes the one on the left correct and proper, and what the one on the right reflects for improper use. What are the things you're seeing that are wrong with the counter example? Put your responses right in the chat.

Remember - Correct use of h-tags is general difficult for accessibility checkers to judge accurately. Without real analysis of the composition, there isn't a lot the system can do to determine whether a subheader has the inappropriate h tag on it, because depending on the message, in a given circumstance, it may be appropriate for that content to be a parent, a child, or a sibling.

There is an exception that we came across recently with our client in Idaho, relating to 'fixed content' on the page. The idea there is that if you have a particular

text or component that appears on multiple pages, usually in a fixed position, like maybe it's a footnote of related links that sits at the bottom of all the pages that relate to a particular topic, it's ok for that to have a uniform h-level tag regardless of its relative position to other content on the page. So that's a bit of nuance that sometimes comes into play in how we construct content types or page components. But generally, if you're writing narrative text that involves subheaders, you should know these practices to use them properly.

AND - I really don't want this to scare you away from the use of h-tags entirely! In reality, they can make a really big difference to the usability of a text-heavy page. Picture a page with a single long paragraph, compared to a page with shorter paragraphs interrupted by relevant subheaders. We've learned that one of the common ways that users of assistive technology navigate a lengthy page is to tab between the subheaders, so you do want them on the page. And that brings us into the topic of negative space, but before we dive into that, here's a quiz question:

'True or false: It is best to remove unused space and minimize white space and padding, so that your page is compact and uses space efficiently.' (FALSE)

Negative space

What's not on the page impacts its usability, too.

Make negative space work for you and for your users by:

- Resisting the urge to use every square inch of the page.
- Remembering the importance of unused space. It...
 - ...contributes to the grouping of like things for visual clarity
 - ...reduces cognitive load and the sheer amount of stuff you're asking the user to consume in any one view
 - ...provides breathing room and fights the feeling of claustrophobia that can be created in very busy pages



- You all have lofty communication challenges, and your webpages are often information-dense. There is even a trade-off we often encounter when helping a client set up a new site to strike a balance between having fewer overall pages (which reduces clicks) and having pages that are not overwhelming or disorganized to the site visitor.
- We often shoot for webpages that are 'hard working'. We commonly see a preference for typically, for conservative and efficient use of space, and a desire to minimize unused or white space. **But** it's important to remember that the unused space can be just as important to legibility and usability as the filled space.
- Consider even the way we construct sentences - a sentence is readable in part because the space between the words allows the reader to recognize grouped letters as words. Similarly, in a page that has

- multiple paragraphs of copy, a blank space between paragraphs improves the reader's ability to visually organize that content. Empty space at the page level - breathing room between components - works the same way. h-tags also contribute nicely to this because they usually have padding above and below them, creating some natural 'breathing room'.
- And it's ok to have empty sections of your pages. If you're working with a layout that involves a $\frac{2}{3}$ region and a $\frac{1}{3}$ region, you don't necessarily have to fill both.

More on negative space

Why is this sentence hard to read?

And this sentence is so much easier?

...Because of negative space. The space between the words enables easier grouping of letters to form the words. The same idea can be applied to the idea of adding space between paragraphs and otherwise leaving unused room on your page so that the content can be more easily digested.

Helpful resource: [Video from Nielsen-Norman on the benefits of white space](#)



So just looking a little more closely at the example of what makes a sentence easy to read...

When we're preparing your graphic design, this is also a consideration of your typeface selections. Some fonts have kerning - the spacing of the letters and the relative size of the space between letters - that is wider, making it a bit harder to perceive the grouping of letters on the page. But generally that's something that your site design and implementation will have addressed.

Even more on negative space!

INCORRECT

Here is a paragraph. Just as space between words creates the readability of the sentence, adding space between paragraphs and otherwise leaving unused room on your page so that the content can be more easily digested.

These are multiple paragraphs but it's hard to tell that this is the case.

Negative space between paragraphs makes the content easier to understand and less intimidating.

CORRECT

Here is a paragraph. Just as space between words creates the readability of the sentence, adding space between paragraphs and otherwise leaving unused room on your page so that the content can be more easily digested.

These are multiple paragraphs and it's easier to tell that this is the case.

Negative space between paragraphs makes the content easier to understand and less intimidating.



This is the same content side by side but the extra line between each paragraphs in the example on the right. You can more easily parse the content on the right because you can see the breaks in the paragraphs, so it reduces cognitive load on the reader.

Use lists

Lists force visual organization and can help you be more succinct.

- When you have a paragraph of text that includes a list of things, try using bulleted or numbered list formats for its presentation.
- Bulleted and numbered lists can help you with brevity and may inject greater clarity in your text.
- It also breaks up walls of text and introduces visual interest.
- Let's see an example...



- Bulleted or numbered lists can be a way to combat lengthy descriptions! In text-heavy pages, paragraphs are sometimes long because they are enumerating several things, usually with commas. Look for long sentences or aspects of your messaging that could be replaced with a bulleted list instead. Bulleted lists are naturally more organized than paragraphs, due to how they are formatted. Padding around a formatted list also introduces that negative space and visual interest, making the page overall more digestible to read.

Paragraph versus list

You should be cautious when driving or walking in flood-susceptible areas because:

- Six inches of moving water can knock you off your feet.
- Two feet of floodwater can float your car.
- Water moving at two miles-per-hour is capable of sweeping a car off a road or bridge.

You should be cautious when driving or walking in flood-susceptible areas because six inches of water can knock you off your feet, two feet of floodwater can float your car, and water moving at two miles per hour is capable of sweeping a car off a road or bridge.



Here is the same content in a paragraph, versus in a list. Hemingway assesses the reading level of the first version, which our partners in  constructed for their website with the use of bullets, as grade 6, whereas the paragraph form is rated at post-secondary level. Generally if you find yourself constructing complex sentences that list things as part of its message, consider whether formatting the sentence using bullets would make it better.

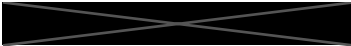
Another example of lists

Plants and animals — both native and nonnative — can sometimes create challenges for property owners and land managers. Explore this section to learn:

- The difference between invasive species and nuisance species
- Why invasive species are especially problematic
- How to control and manage Missouri's most common invasive and nuisance species

Plants and animals - both native and nonnative - can sometimes create challenges for property owners and land managers. Explore this section to learn the difference between invasive and nuisance species, why invasive species are problematic, and how to control and manage Missouri's most common invasive and nuisance species.



And one more example to drive the point home, this time from our friends at the Department of  They correctly used bulleted text in the example shown at the top, which I also am showing in a basic paragraph format below. This formatting kept the content to a grade 10 reading level, versus post-graduate in the paragraph version.

Limit tables

Use tables sparingly.

- Tables provide a lot of value to certain types of content. But it's important to carefully consider whether the information you're composing **needs** to include a table. A two-column table may be better represented with body copy.
- Tables don't respond well on mobile, and they can become very hard to use for those who rely on zoom to increase the size of content they're reading, which is an accessibility consideration.
- If you do use a table, using table headers is essential.
- Tables should not be used for layout purposes.



- You may have content that necessitates a table and it's quite likely that users of that content are more likely to access it on a larger monitor, like a desktop computer. Highly structured data that is used in a professional capacity, for instance. To me, this is a similar issue to reading level, in a way, since you might base your decision to use a table on who the target audience is.
- Content that is aimed at the general public or that is likely to be viewed with a mobile device ideally avoids the use of tables. Firstly, they are typically unfriendly for mobile use, so you may be excluding a portion of your audience by using table-based formatting. Secondly, the ability to zoom in and adjust sizes of what you see is an important capability for accessibility purposes, and tables are hard to work with when a user has applied that type of change.
- Tables are not innately 'inaccessible'. But they might

- not be the friendliest, most inclusive way to present content. So if you're composing a page that involves a simple table, and especially if you have a high rate of mobile use, see if you can replace the table with body copy instead. If you do use a table, remember that the use of table headers is integral; they provide meaningful structure that can be interpreted by everyone, including users of assistive technology.
- With all these points in mind, it's lastly important to remember that you should not use tables to achieve a particular layout.

Next, we're going to talk about PDFs, so here's another quiz question:

'True or false: PDFs are never fully accessible when they are first created, and need remediation to make them suitable for the web.'

(FALSE)

PDFs and media

Tread carefully with your use of PDFs and other media formats.

- There is an updated milestone coming up in April 2026 that may bring along with it heightened scrutiny of the web accessibility of your sites.
- PDFs are commonly not accessible, and much of your critical site content may be in PDF format, so this constitutes an area where your site may have failures against WCAG standards.
- Read the rule and keep up with updates, since there will be exceptions and other pertinent details in how it gets applied to various government agencies.

Helpful resources:

[ADA fact sheet on impending rule](#) [Harvard's guidance on building accessible docs](#) [Web AIM guidance on converting PDFs](#)



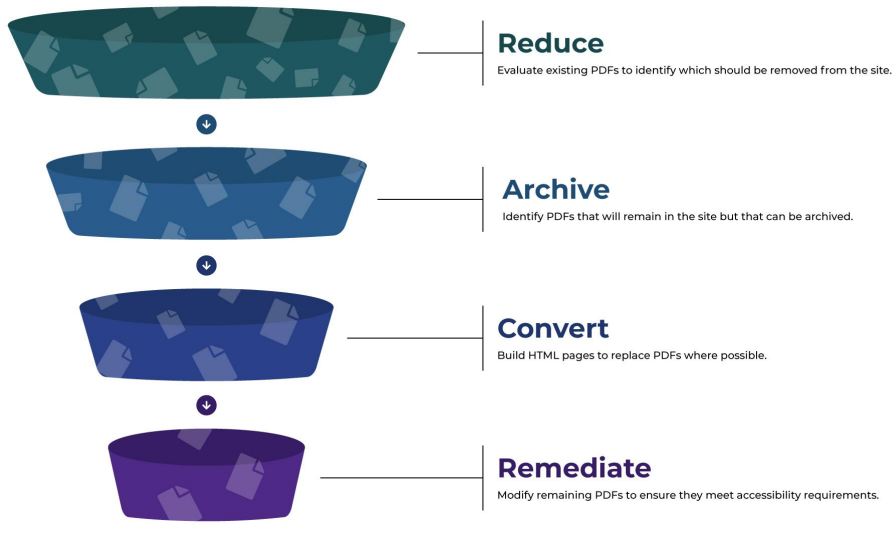
There is an important milestone coming up in April of 2026, at which point WCAG 2.1 level AA will be codified as a requirement for state and local governments serving a population of 50k or more. There are later dates for those serving smaller populations. PDFs have been a significant focus since this was announced earlier this year as we see clients shifting their attention to how much of their web communications contained in PDFs fail to meet WCAG requirements.

Generally it is indeed hard to make PDFs conform to accessibility standards. It is possible, but it is an added burden at the time the PDF is being created so that it has appropriate accessibility functions from the start. We find a lot of clients have large volumes of PDFs, so we're advising a tiered approach that is aimed at cutting down on the total amount of content that is PDF based. We recommend you begin by communicating proactively within your organization to discourage the creation of PDFs. Work with your content contributors to scrutinize whether content can be

created as HTML instead. HTML content, especially if built out in a CMS that has been designed and implemented with accessibility in mind, is generally safer and higher-performing for all users, according to accessibility standards, than PDF content.

With respect to existing libraries of PDFs, it's important to be familiar with the rule because there are some exceptions and some details in how agencies are expected to comply, so you want to be well-informed. The fact sheet linked here goes over those exceptions.

Recommended tiered strategy



Let's take a closer look at the tiered strategy that you might want to apply.

- Reduce the total number of PDFs by removing any that don't need to be on your site. You may create age-based or topic-based rules that help you to identify PDFs that are no longer needed. This step might require you revisit the purpose and mission of your site and review PDFs according to that. For example, we sometimes see clients who have come to use their public-facing website as a kind of 'filing cabinet', including post materials that might not be sensitive in nature, but that are really used by an internal audience. So one tactic to apply is to really scrutinize whether your site is the proper place for materials like that to be held.
- Next, consider whether any of the PDFs you do need to keep can be archived. Materials that are outdated or obsolete will likely qualify for an exception that allows you to

- archive them, in which case they will not need to be brought up to accessibility standards. A brochure on the agency's response to a flood event that occurred several years ago, for instance, could arguably be an example of outdated content that is retained for reference purposes, but can have an archived status applied. But if it's current content and it relates to how a user accesses services, it would not be a good candidate to archive.
- With what remains, we encourage you to identify PDF content that can be converted to HTML. This may require a new content or page type be enabled in your CMS, or you may find you have all the tools needed to begin replacing PDFs with webpages. You can also keep content in PDF if the content is ALSO available in HTML; so it doesn't necessarily have to involve removing the PDFs, as long as a user isn't solely dependent on an inaccessible PDF for that information. However, you might opt not to maintain two formats - HTML and PDF - since it can create risk that content is not kept in sync and you have contradictions or inconsistencies.
- Finally, take steps to remediate the PDFs that remain. Remediation generally involves a file-by-file process that adds meta data to the document in order to increase its accessibility, including support for assistive technology and keyboard-based navigation through the document. Remediation can be laborious and costly, which is why we advise you first pare down your library of PDFs using the first three steps in this process.

The shift away from generating content in a PDF format will be difficult, logistically and culturally. For ongoing creation of PDFs, you will need to adjust how they get generated so that they are accessible at the time they are published.

Consider print-ability. Oftentimes, we are finding our clients prefer PDF as the format for materials that they expect will be

downloaded and printed. If that's the case, there are a few options to consider - you can have 'print friendly' views developed, that enable a tidy printable version of the page, or you can maintain a PDF version alongside HTML, web-based content.

Lastly, other media should not be forgotten. There are accessibility requirements in WCAG for video and audio content, so a strong practice at this point would be to start ensuring that newly created video and audio files are generated with proper settings to enable things like transcriptions.



- David steals the screenshare?