

Expanding Accessibility

Making Digital Content Accessible to
People with Disabilities

The story I'm telling today is not borne from the wisdom of a seasoned expert but rather comes from someone individually and as an organization corporately finds themselves midstream of journey we weren't anticipating taking. We are learning and figuring out the way as we go. And I'm pretty sure this is a journey some of you have taken or may be taking in the near future.

I am a librarian at Library of Michigan, our state library. I work with our digital government documents collections – both the born digital, and oversee our digitizing, and the delivery of this content. I am also on the library's web team, and social media team. An important detail is that the Library is under the Michigan Department of Education. I am not a disability rights expert, nor an expert on assistive technologies.

In February, 2014 a disability rights activist filed a federal complaint with the US Dept. of Education alleging that the MDE was discriminating against people with disabilities because some of their web content was not accessible to people with disabilities. The US Dept. of Education's Office of Civil Rights investigated and found that the website itself was mostly accessible to people using screen readers, however many videos and pdfs housed on the site were not. In response, our state Dept. of Ed entered into a voluntary agreement with the federal dept. to rectify this by the

summer of 2017. Rectifying this situation involves training all of us who work on the website on how to create accessible new content, but also dealing with the up to 800 videos and 8000 pdf documents currently online. (Fortunately LM is a small portion of those numbers.) This work will involve removing content that is deemed no longer necessary and remediating all the rest so it is accessible.

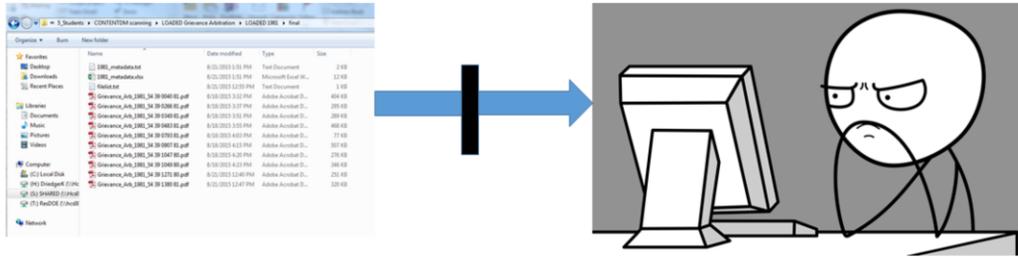
At a staff meeting this summer our web manager discussed the changes we would be making with how we create the pdfs we post to the Library's part of the Department's website. I began to wonder, will this mandate affect our digital collections – which are not housed on the Michigan.gov site? After some discussion with the person coordinating MDE's response it was decided that yes this mandate for accessibility will affect some of our digital collections and now we are figuring what these requirements means for us.

Expanding Accessibility

Making Digital Content Accessible to
People with Disabilities

So now I, and we, are thrust onto the journey of understanding the issues and solutions to making our digital content accessible to people with disabilities.

Barriers to Access



Providing access to content is a goal of my library, and a personal, professional goal, and I'm sure one for many of you as well. We collect stuff we feel is important or which we are legally mandated to collect in order to provide access to it. We are all about access. But there are often barriers to access.

There are physical barriers. If the content is in a building far away. That's a barrier to access. If the content is in a building that is only open a few hours a day. That's a barrier to access. If the content is in a building that doesn't provide wheelchair ramps and other accommodations. That's a barrier to access.

One of the primary ways we attempt to overcome these physical barriers to access is by putting content online. In my experience of the digital world the terms access and accessibility has been used synonymously with available. Putting something online was synonymous with making it accessible. But even here we have barriers to access.

For one thing, the digital divide is still a reality and people's access to and capability to operate in a networked computer environment is not universal.

A lot of content is available online which I can connect to it, in theory, if I'm willing to

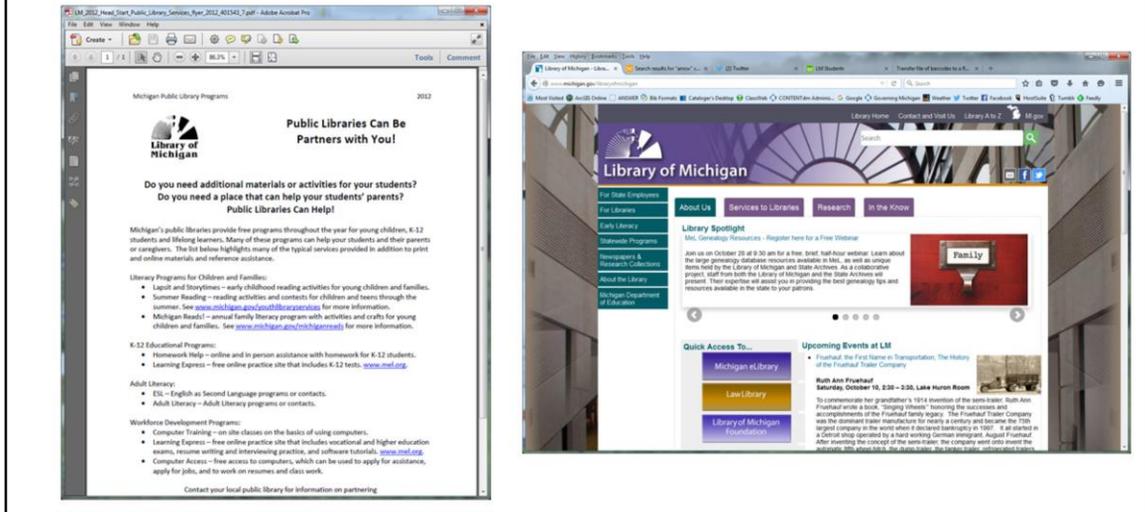
do what is needed to get past various walls, which most often want my money and want me to agree to licensing/privacy terms. And that's a barrier to access.

So we've developed the "open access" idea to further remove barriers to accessing digital content. Although even things in Hathi, even copyright-free federal documents, non-member user's access might be limited to downloading one page at a time – which is a barrier. (My coworker complains about it all the time.)

But now that we've removed physical, financial, and licensing barriers from access, it still doesn't mean that all people have the same full access to this content.

Now we have to ask whether the content, and the context within which we find the content presented in such a format that people with disabilities can access the content? From the idea of accessible meaning 'available' we get to the definition used in the agreement between MDE and the US office of Civil Rights. "Accessible means a person with a disability is afforded the opportunity to acquire the same information, engage in the same interactions, and enjoy the same services as a person without a disability in an equally effective and equally integrated manner, with substantially equivalent ease of use. A person with a disability must be able to obtain the information as fully, equally, and independently as a person without a disability. Although this might not result in identical ease of use compared to that of persons without disabilities, it still must ensure equal opportunity to the benefits and opportunities afforded by the technology and equal treatment in the use of such technology." That definition presents some very different barriers to overcome.

Accessible Content and Context

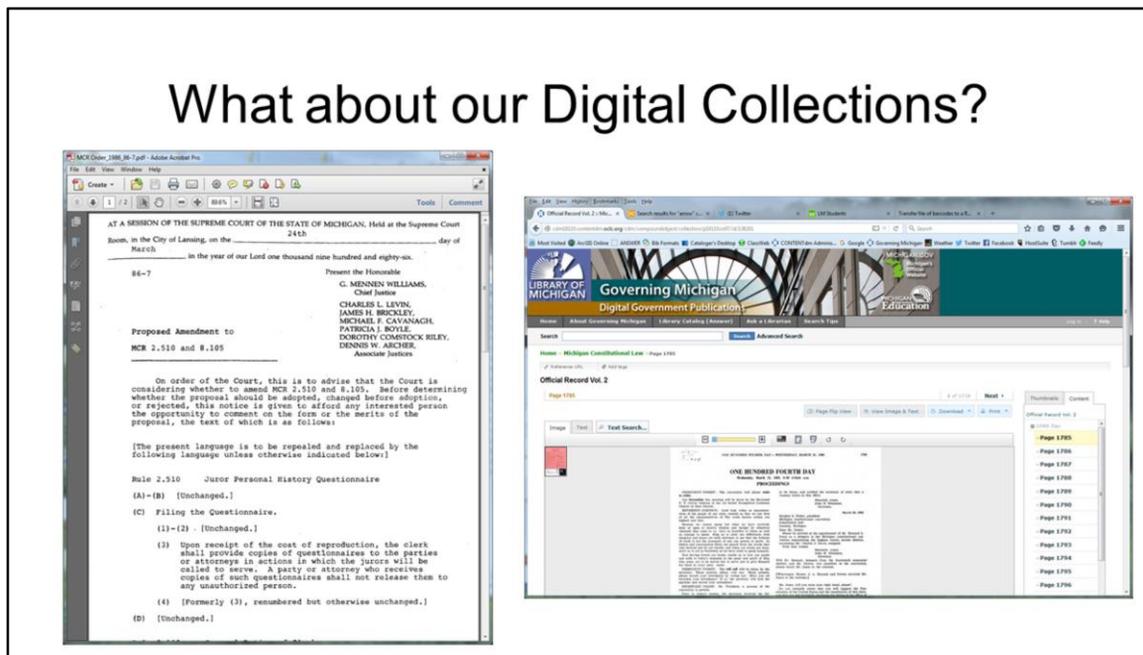


Accessible digital content involves two categories of interest – the content – are the individual files accessible, and context – is the context or the way those files are delivered accessible?

At the library and the department, even before the complaint and the finding we had been taking steps to ensure our website itself is accessible. This was something the state had already given a lot of attention to, and that the US Dept of Civil Rights didn't find a problem with. There are some pretty common guidelines for web accessibility like a good heading structure, well labeled graphics with alt text, and other elements like hyperlinks (e.g. don't use "Click Here" as hyperlink text), not using graphics alone to communicate information, captioning and describing videos, using good contrast, and well-structured tables.

Like I said, we have been addressing these concerns but we are improving things even more with more training and an improved accessibility checker within our site's cms. However we had not been doing so well with all the pdfs and videos. But that's all about the content on our website.

What about our Digital Collections?



Hearing our web manager talk about the work we needed to do on our website made me wonder – where do our digital collections fit in? Are their different issues we need to address with our digital collections? The reasons I am thinking about this is first, to fill the legal requirements of our Dept, but also as I learn more about this I am motivated by this as the ethically right thing to do. Part of why I like digitizing government information is to make it more available to the public – government transparency – and I should do what I can to make it available to as large a percentage of the public as possible.

3 categories of digital content –

Archived born-digital – may pull from websites or receive in other formats

Web archived – Archive-It

Digitized

Agreed that we didn't have to do anything with the archived born digital and web archived material. This material was created in the past by other agencies, and we can't go about changing the material they created. It is both too big of a job, and for us to change it would reduce the content's authenticity. These agencies which create this content will need to change their practices in the future. What MDE is doing, all other departments will have to do.

But with the materials we are digitizing we, the MDE, are creating those digital objects so we are obliged to make them as accessible as we can.

Accessibility and CONTENTdm

We use CONTENTdm to deliver up our digital content – both born-digital and digitized.

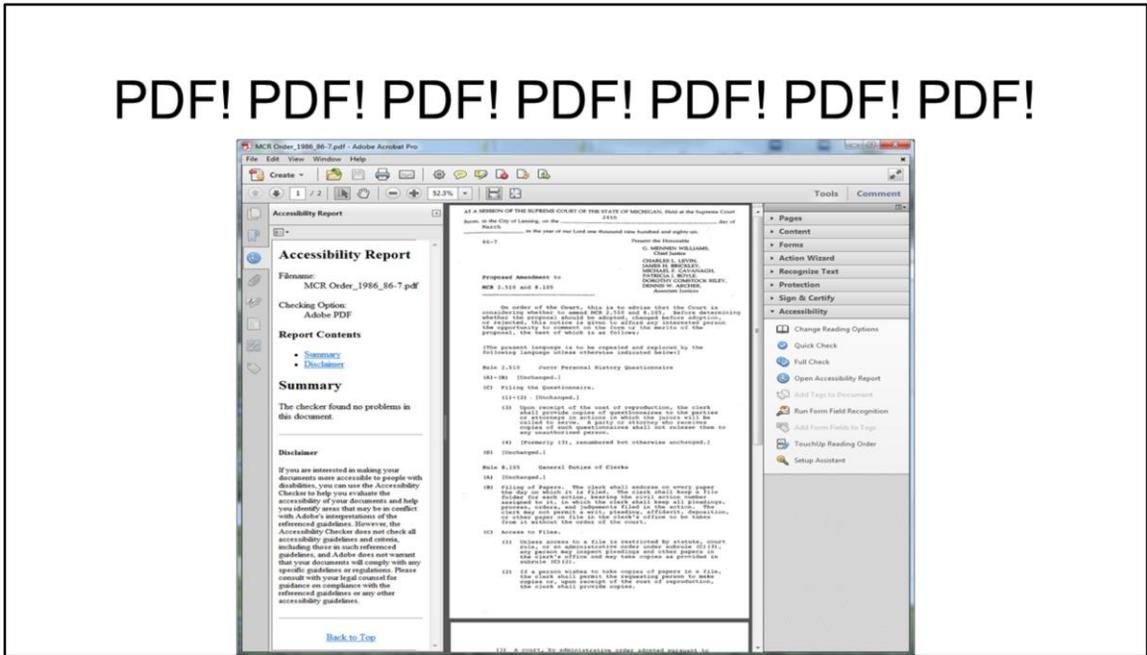
Helpful article “Do You Hear What I See? Assessing Accessibility of Digital Commons and CONTENTdm” by Wendy Walker & Teressa Keenan (librarians and the University of Montana-Missoula) testing accessibility of Digital Commons and CDM as a platform. If you use either of these you should read this

Their results of using a screen reader with CDM can be summed up in this one sentence quote “The home page and the collection landing page both fared relatively well, while the object-level pages varied from slightly difficult to completely unusable.”

I spent 45 mins with a blind colleague who is a tech super user – he teaches other blind people with using assistive technology. I had him move around the collections a bit and use a compound object. He found it a bit of a challenge but felt that with some more experience on the site it he would find it usable. Our experience was more promising than the ones in the article, but it was also based on a very brief, unscientific test.

Of the materials we digitize more than 99% is text and we use 2 different approaches within CONTENTdm to serve it up to users. Some material we provide as a compound object made of many images (with OCR), and other content we load as PDFs. PDFs are probably the vast majority of our content.

PDF! PDF! PDF! PDF! PDF! PDF! PDF!



PDF accessibility

- Default format for delivering info
- Good reasons to use PDF, and good reasons NOT to use PDF
- Data people often don't like PDFs because data within is unstructured and unusable as machine-readable data
- Often created very poorly – HR would print attachments, scan as a pdf, and email them to me!

Our changes to PDF creation

There are guidelines to creating accessible PDFS

Add pdf metadata – title , author, subject, keywords, and set the reading language.

Tag the pdf

Tagging a pdf is similar to any other tagging like html or xml. It defines elements within structure of the document so someone using a screen reader can browse the headings or the link

We use our OCR software Abbyy Finereader to automatically tag it. It is very, very far from perfect. Essentially it tags everything as a paragraph.

Ensuring it passes Adobe's accessibility checker (in Acrobat Pro).

There are more things we can do in Acrobat to improve the usability but don't do yet.

From Accessibility to Usability

jured at me r.a.m
lin Dock.
4 .. in The
Oibfr
ItvIn Cities.
(Amof n Tlnn.
Inick WasbDuro.
who baa beeo making his home at
L hnuaf. nendiac? the
Ual of bis familj. met with a serious
Vcidentatinerrau. - -
Way mormon- " - -
C which the bucket is landed, when a
UetwbicnwaBuuv v -
.a mo nn and atruck
l . thrniD nOf him t.n rhft
nder tbe BiaKi"K



Differences between accessible and usable

On the left is the OCR text of the newspaper page on the right. It goes on down as one long long column of "text". This is barely accessible, and hardly usable. An extreme example

We are hitting the lowest possible standard for accessible pdfs – if even that.

They pass the Adobe Accessibility checker – which is the level of accessibility that MDE asks of us – but I doubt how usable they are.

We are not tagging the structure of the pdf to reflect the actual structure of the document

Need to improve both the digital objects we create, and the means in which we provide access to them

Mixed results on CONTENTdm usability

Accessibility must lead to usability in practice

Research and Resources

- “Do You Hear What I See? Assessing Accessibility of Digital Commons and CONTENTdm” by Wendy Walker & Teressa Keenan. *Journal of Electronic Librarianship*, 2015 (27), pp 69-87
- “Accessibility of Digital Special Collections Using Screen Readers” by Kristina L. Southwell & Jacquelyn Slater, *Library Hi Tech*, Vol. 30, Iss 3 pp. 457-471
- WebAIM – Web Accessibility In Mind - <http://webaim.org/> Has contrast checker and WAVE (Web Accessibility Evaluation Tool)
- Web Content Accessibility Guidelines (WCAG) 2.0 - <http://www.w3.org/TR/WCAG20/>
- Web Accessibility Initiative - <http://www.w3.org/WAI/>

Emailed with authors of the CONTENTdm article and they talked to OCLC who said they were quite interested and would include people with visual disabilities in future testing.

“Do You Hear What I See? Assessing Accessibility of Digital Commons and CONTENTdm” by Wendy Walker & Teressa Keenan. *Journal of Electronic Librarianship*, 2015 (27), pp 69-87

“Accessibility of Digital Special Collections Using Screen Readers” by Kristina L. Southwell & Jacquelyn Slater, *Library Hi Tech*, Vol. 30, Iss 3 pp. 457-471

WebAIM – Web Accessibility In Mind - <http://webaim.org/> Has contrast checker and WAVE (Web Accessibility Evaluation Tool)

Web Content Accessibility Guidelines (WCAG) 2.0 - <http://www.w3.org/TR/WCAG20/>

Web Accessibility Initiative - <http://www.w3.org/WAI/>

Thanks

Kevin Driedger
Library of Michigan
702 W. Kalamazoo
Lansing, MI 48910
driedgerk@Michigan.gov
517-373-9440
@kevindriedger

What are others doing?
And thanks