We’re Open Access…But Are We Accessible?

DC+GLUG 2016 presentation script – Matt Ruen

Slide 1: We’re Open Access…But Are We Accessible?

Hi, I’m Matt Ruen, the Scholarly Communications Outreach Coordinator—and repository manager—at Grand Valley State University, in Michigan. Which is right here, on the mitten. (I’ve been there almost 2 years, and I still love being able to do this!)

My colleague Jackie Rander, our publishing services manager, was not able to make it today, but this is her project as much as it is mine.

Also, want to give credit to Jeff Sykes, the [title] in GVSU’s Disability Support Resources center, for the information and guidance he has provided us, as we try to improve accessibility.

Who has thought about accessibility, or talked about it? (comment)

Open access, from the very beginning, has been about removing barriers. Financial barriers—paywalls; or intellectual property barriers, so that work can be remixed and reused. Accessibility is about removing barriers, too—but those barriers are harder for most of us to notice, because we don’t run into them every day. It’s easy to quietly assume that once a pdf is online, freely accessible, its text fully searchable…that’s it!

This summer, we faced that assumption head on, asking ourselves: are we accessible? In the proposal and abstract for this talk, we promised a rubric for evaluation, and we don’t have one, because what we learned in the course of asking this question turned out to be both a lot simpler and a lot messier than we anticipated.

Slide 2: Open Access, Accessibility, & Our IR

We’ve had our Digital Commons repository for about 8 years, but we hadn’t thought much about accessibility—a couple years ago, it came up when one of our most-active journals wanted to adopt ISSUU as a digital flipbook, but learned that GVSU discourages ISSUU because it doesn’t play well with assistive technologies. At that point we learned that
individual article PDFs also weren’t particularly accessible—but other things came up, and we figured we’d come back to it when we had time. There’s always plenty of time in Academic Libraries, right?

In the last year, as GVSU and then the Libraries developed strategic plans for the next five years which emphasized an inclusive and equitable educational environment—accessibility came up specifically at all levels.

And then in March, while Jackie and I were promoting support for Open Educational Resources, Jeff came up and asked us a straightforward question: are OER generally accessible? We realized that we didn’t know, even for the open textbooks in our repository—or our other content, for that matter.

At that point, all the pieces came together; Jackie and I basically looked at each other and said “summer project?” “summer project.” (it also helps that we were brainstorming ideas for DCGLUG submissions around that same time....)

Slide 3: Getting Started

How many of you have looked closely at accessibility for web content, or for your repositories? How many of you feel like you know where to start? (that's where we were // you're in better shape than we were)

About all we knew was that we didn’t know anything. But conversations with Jeff and information from our Disability Support Resources office helped us grasp the basics. And the Digital Commons google group led to an excellent 2015 article by Wendy Walker and Teressa Keenan, librarians at the University of Montana Missoula, which helped get our “accessibility audit” on the road.

Slide 4: An Accessibility Itinerary

In the proposal and abstract for this talk, I promised a rubric for evaluation, and we don’t have one, because what we learned in the course of this accessibility audit project turned out to be both more straightforward and more complicated than we anticipated. In lieu of a single rubric, I’m going to share a quick overview of accessibility—why it matters and what it looks
like, talk about what we learned in our audit and the resulting dilemma (spoiler alert: the answer to our question was not “everything’s perfect, our work here is done”).

Once this is online, it will also have a list of resources; but that list is still pretty messy right now.

Slide 5: Accessibility 101: Legal Obligations

Now, legal requirements aren’t the only reason to address accessibility – the moral arguments which drive the Open Access movement apply to accessibility, too. We’re all working to remove barriers to scholarly information, because we all benefit when more people can build new ideas, culture, and discoveries off of existing information. And if we only remove those barriers that affect the able, we’re just perpetuating the same kind of system we’re trying to change.

That said, legal obligations are more immediate, and stronger, incentives than moral ones—and many discussions of accessibility, in higher ed and elsewhere, revolve around a couple key laws.

This photo, taken 26 years ago this past Monday, shows the signing of the Americans with Disabilities Act, the broadest and best-known accessibility legislation.

Slide 6: Accessibility Legislation

The ADA prohibits discrimination in a wide range of activities, particularly by public entities—so, any state colleges and universities—and private organizations open to the public—which includes most private schools.

An earlier piece of disability legislation—the 1973 Rehabilitation Act—is even more relevant to higher education. Section 504 specifically targets any program that receives federal financial assistance—like, say, nearly every postsecondary institution in the country—and offers a simple choice: provide the disabled equal opportunities to benefit from your services—including your information—or give up federal funding. Investigations by the Department of Education’s Office of Civil Rights, and the resulting settlement agreements, can and do apply to library services and content—and did recently at Penn State, UC Berkeley, and the University of Montana, among others.
Section 508 of the same act also comes up a lot in accessibility discussions. This one doesn't apply to us at all—it’s specific to Federal government agencies—but its specific focus on electronic and information technology is the key to some great accessibility resources. Most Agencies have published guidance for their own programs, and since the Federal government is an incredibly profitable market, many technology providers talk about accessibility in terms of Section 508. Even if the rule itself technically isn’t relevant to us, the information definitely is.

The intent of the ADA and Sections 504 and 508 is equal opportunity & access. Sometimes, though, providing fully equal accessibility is not feasible, either because it would be such a burden that it would prevent an organization from functioning, or the effort of providing that accessibility would take over the organization’s function. In these cases, the ADA and Section 504 permit reasonable equivalents or approximations of the original access. But that’s case by case, and “it would be hard” generally isn’t enough to count as an undue burden.

So, what does accessibility look like for digital content? As librarians, you’ll be happy to hear that one important piece is metadata—we know that metadata makes the digital world go round, and a lot of accessibility is just making human-readable content machine-readable: the metadata that lets search engines understand a digital object will also help assistive technology devices turn visual information into audio (or braille)—so their users can understand that resource.

For text files – whether that’s a pdf or .doc file, or text on a webpage, accessibility comes via screenreaders—assistive technology programs that literally read the document aloud, with
navigation by keyboard alone. This means that the program needs to be able to identify not
just the characters of the text, but also its organizational structure, any navigation elements,
and visual features.

So full-text character recognition is just the start. Any layout or formatting—headers, footers,
sidebars, section heading, etc—need to be tagged (like you’d tag elements in html or xml).
Images need alt text that briefly describes the image; tables need detailed tagging, and more
complex visuals might need separate long descriptions.

Slide 11: [untitled]

Here’s a quick example: part of a nice-looking page from our nicest-looking journal. Very
professional, we’re proud to host them. But when we ran this through a screenreader, it wasn’t
pretty—the page wasn’t tagged, and the screenreader had some trouble with the columns,
kept randomly saying “graphic” in the middle of sentences where there wasn’t any visible
graphic element, …and turned the existing graphic into a garbled word salad.

Slide 12: Multimedia

For multimedia—images, audio, or video—accessibility means a text alternative to the visual or
audio content. For images, again, this means alt text; for audio, transcripts. For audio-video
content, or just video, captions or transcripts—though captions and transcripts should include
more information than just the literal words spoken, but also other visual and audio cues and
messages. For particularly complex visuals or non-spoken audio, a separate description may
be necessary.

Slide 13: Website Content

For websites, the World Wide Web Consortium’s breaks down their Web Content Accessibility
Guidelines into elements that make content

Perceivable by all users (not just those with full vision, or hearing, etc)
Operable by all users, regardless of abilities—so nothing that can only be accessed if you can see and click it
Understandable, so the interface can’t be confusing (like the word-salad graphic—where the words were there but incomprehensible)
Robust: accessible via a range of assistive technologies

The W3C’s guidelines mostly mirror accessibility for any text documents or multimedia, with extra attention to metadata, webpage structure, and navigation options.

Slide 14: Enabling Accessibility: From the Beginning

Unsurprisingly, accessibility is easiest when it’s a part of the process from the beginning, and plenty of publishing and creative programs make this possible. Programs like Word, Powerpoint, and the Open Office suite have built-in tools for automated tagging—that’s one of the benefits of Word’s “Styles” feature—adding in alt text, and converting the final document into an accessible PDF—as long as you used all the other tools (which many people don’t).

Slide 15: Enabling Accessibility: After the Fact

And that’s the big problem with accessibility—if you don’t do it from the beginning it gets much harder.

[skipped text: Captioning and transcripts, of course, need to come after the audio or video is captured—and voice recognition tools are improving, though 80-85% accuracy is still very good, and still requires human intervention.]

Text is a larger challenge—especially documents with graphics, tables, or visually-complex layouts. Adobe Acrobat Pro has the tools, but depending on the document it could take an experienced user 15-20 minutes per page. And the commercial options are not cheap--$8 per page is typical.

Web accessibility really depends on your tools—if they’re built well, it happens as you go. If not...it’s up to you and your html skills.
**Slide 16: Our Accessibility Audit**

So, having survived the ‘what is accessibility, anyway’ learning curve, we looked closely at our repository—both the web interface and the digital content we host.

**Slide 17: Our Questions**

We started simply, sampling the different kinds of content we have—our website, student papers, faculty self-archiving, our published journals and events—and looking for basic elements of accessibility—tagging, alt text, files that won’t derail a screenreader.

**Slide 18: Evaluation Tools**

There are a number of useful tools for this kind of accessibility check; here are a couple that we used.

This image shows WAVE, from the organization Web Accessibility In Mind, which is a free online tool for flagging webpage accessibility issues right where they appear—so the red, yellow, and green boxes—here on the first DCGLUG conference page—show errors, or potential issues that need a human eye, or good accessibility features.

Acrobat Pro has a similar tool for flagging actual or potential accessibility issues—and since almost all of our content is in PDF, we relied heavily upon Acrobat’s check as a first assessment—but with both WAVE and Acrobat, human observation is still necessary—computers still are not great at interpreting nuance, ambiguity, and contextual details.

**Slide 19: Audit: Digital Commons Platform**

What we found online was quite good; bepress has done a really good job making sure that the metadata provided for Digital Commons collections leads to accessible pages, with alt text and machine-friendly formatting and navigation. Bepress has worked to ensure that the Digital Commons web platform meets the W3C’s accessibility standards, and viewing pages through WAVE shows that they’ve been largely successful, with flagged errors being few and relatively
minor. Keenan and Walker point out a few other issues in their 2015 article, but by and large, Digital Commons is a very accessible web platform.

Going into this audit, we felt pretty good about the web accessibility, and our close look reinforced that optimism. Spoiler alert: the good feeling did not last.

**Slide 20: Audit: Repository Content**

So, here’s the main reason that the rubric I promised in the abstract doesn’t exist. We started looking at our content, and realized very quickly that, essentially, none of it is really accessible.

10,000 open access, paywall-free items, and none of the pdfs we sampled—whether an OA article from an Elsevier journal or a student-produced thesis—none of them had tagging, or alt text on their images, or proper notation for tables. The same held true across our publications and conference structures, and our few videos are all transcript- and caption-free.

Sure, the text is present in our PDFs, thanks to OCR—and for the simplest of our files that may be enough for a screenreader to understand. But anything complex, with tables or images or more complex formatting—some of our best content, in other words…aren’t even ‘barely’ accessible.

And, in retrospect, it’s not surprising. For the abled, accessibility tends to be an afterthought; if our campus partners, students, or faculty, thought about accessibility at all, they probably all assumed that a PDF (with OCR) would be fine. We certainly did. But mostly, nobody thinks about it, or does anything about it.

So what we receive is inaccessible—and to make matters worse, even if we did receive something that was beautifully tagged....the version available online wouldn't be.

**Slide 21: bepress Cover Pages**

Because here’s the other problem we ran into... Digital Commons automatically-generated cover pages automatically strip out any tagging in a pdf as you upload it. This isn't intentional; it's a side effect of the programs that bepress uses to generate the cover page from contributed metadata, and to merge the cover page with the uploaded file.
So on the one hand, we get this nice cover page with a ton of potential for connecting users to the rest of the repository....but on the other, using it is a final nail in the coffin of accessibility.

(For anyone who manages a non-digital commons repository—you have a different tradeoff. You don’t need to worry about tags being removed, but you also don’t get the potential benefits of these cover pages...and you probably have to manage your own web interface a lot more than we do)

Slide 22: Obstacles to Accessibility

So...none of our content is accessible. Great. That’s probably something we should try to fix, right?

Of course, there's no easy route to accessibility, and significant obstacles to either requiring accessible submissions or making content accessible ourselves.

Slide 23: Obstacles to Creator-Managed Accessibility

It’d be great to just expect—or require--accessible documents from everyone else.

However: like most repositories, we’re at the tail end of every workflow. That’s a lousy point to say “by the way, would you please spend 15-20 minutes per page making your thesis or post-print accessible?”

And since nearly all of our content is voluntarily submitted—a significant hurdle will discourage volunteers.

Limited leverage: if our partners and submitters—our content sources—decline to acquiesce to our request for accessible documents, our only leverage is to walk away, to decline the partnership or submission. That is probably worse for us, and for hundreds of thousands of able readers who might benefit from the submission, than it is for the submitter.

The partners who do have leverage are not currently ready to mandate accessible documents.
Slide 24: Obstacles to IR-Managed Accessibility

So why not just handle it ourselves?

Time: we already do mostly mediated deposits, which takes significant time. Adding even 5 minutes per page would take a lot more. Even though we’re fortunate enough to have a robust time, our resources are limited.

And the opportunity cost of that extra time would be severe—without a sudden windfall of funding and staffing, we’d need to cut back drastically on our support services, on our outreach, on recruitment of new content and new open access partners. We’d stall out.

Beyond this, there’s a lot we don’t mediate—we’d have to start interfering with every one of our journals—normally those are managed entirely by their editors—as well as the conference and event communities we host.

Oh, and the backlog would be a nightmare.

Slide 25: [untitled]

So here’s our dilemma:
Obligated, by law to make our content accessible, unless it would be an “undue burden”. Our values and our institutions’ priorities also call for accessibility.

And yet our constraints make accessibility costly—in money, or lost time, or lost content or all three.

Slide 26: What would you do?

Before I describe how we’re tackling this dilemma...—let’s pause for a moment. DC GLUG is a great group of repository managers and library folks, and I’d bet that many of you share this situation. It’s really easy to never quite find the time to think about accessibility...so let’s do that. (plus, I can enjoy some water, and you can enjoy a break from my voice)

What would you do? What are you doing? As long as we’re all here together, let’s take 5-10 minutes to share our ideas!
Slide 27: Finding Our Way Forward

(Quick show of hands: who decided they’d do nothing? Drop everything for major accessibility? Wait and see? Try to find a middle ground?)

That’s what we’ve ended up doing. Doing nothing is unacceptable. So we tried to find a middle ground.

Doing everything isn’t feasible. Would be an undue burden. But doing *something* IS feasible.
Mandating accessibility across the board, or processing everything, would destroy either our content stream or our ability to recruit new contributions, both of which would seriously harm our institutional mission and service.

Slide 28: Incremental Changes

Incremental changes to our own practices and policies: (benefit of doing this WITHOUT the Department of Education staring down at GVSU)

Strengthen Metadata that we include, and that we require from partners—
Website Redesign to address some issues where possible; improve info on our website—
Bring Accessibility into all new conversations, and to all current partners—to start people thinking about accessibility. “It’s a suggestion now...it may become a requirement.”
Provide Guidance/Information on making accessible content – on our website but also encouraging partners to include this in their info;
Monitor what we get—make cover page decisions based on what we’re receiving.

2 major changes:

Slide 29: Accessible OER

First, making our open access textbooks accessible. A big project, but our OER are:
- High downloads
- Used in classes here
• Library-mediated; potential for setting precedents
• Finite collection of works

Yes, may be massive project, BUT valuable. Worth doing, and doable. Especially with increasing promotion of OER on campus. (may already be accessible versions; maybe able to enlist faculty authors, or students)

Slide 30: Accessibility On Demand

Finally, to meet our real obligations in a way that won’t be an undue burden, committing to make individual items accessible on demand.

Why this seems reasonable to us: responding to real needs; each individual file should be fairly manageable; can remove/incorporate cover sheet as necessary; allows us to prioritize users to whom we have the highest obligations (namely, faculty/staff/student needs related to GVSU courses.

Slide 31: What can we all do?

I want to close by suggesting a few things that all of us can do.
• Assess: take a look at your stuff
• Find: campus disability support office. Maybe the web developers or IT folks. Talk to your existing project partners, see if any of them are thinking about accessibility
• Make changes where you can!
• And most importantly—let’s keep talking about this. With our colleagues, with our repository community, and with bepress. Bepress needs our feedback to determine what to prioritize, and if the digital commons community decides that accessibility is a major concern, I’m confident they’ll listen. So if the way cover pages strip out tagging bothers you, join me, and others, on the feature request for fixing that. Or talk to your support rep about other accessibility feature requests. And if your institution is paying more attention to accessibility, like mine, let bepress know, so they can respond to their market—and so that we can make more of our content available to even more people.

We have limited authority to force people to change. But we can encourage. We can start talking about how we’re proceeding
Slide 32: Questions?

Slide 33: Useful Resources (section title)

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Slide 34: Resources: Getting Started

- [Voluntary Product Accessibility Template (VPAT)](https://www.bepress.com) formally outlines how bepress approaches accessibility with the Digital Commons platform
  - Our IR's [default accessibility statement](https://www.bepress.com) provided by bepress
- [Making Documents Accessible](https://www.gvsu.edu) from GVSU's Disability Support Resources Office
  - Your institution and/or peer institutions likely have similar offices or support units.
- [Do You Hear What I See?](https://www.gvsu.edu) by Wendy Walker & Teressa Keenan. Compares accessibility in Digital Commons & ContentDM
  - You can find related work by Walker & Keenan in the [Faculty Publications community](https://www.gvsu.edu) of the University of MT’s repository.
- [Introduction to Web Accessibility](https://www.webaim.org) a primer from [web accessibility in mind](https://www.webaim.org) (WebAIM).
- [Understanding Web Content Accessibility Guidelines](https://www.w3.org) from the World Wide Web Consortium (W3C).
  - The W3C's [full Web Content Accessibility Guidelines](https://www.w3.org)
- [7 Things You Should Know About IT Accessibility](https://www.educause.edu) from EDUCAUSE.
- [Developing Policies on Web Accessibility](https://www.w3.org) from W3C.
- An [8-Step Implementation Model](https://www.webaim.org) from WebAIM. A detailed approach for establishing policies.

Slide 35: Resources: Government info

- [Americans with Disabilities Act (ADA) Portal](https://www.ada.gov), from the Department of Justice
  - [ADA Technical Assistance Manual](https://www.ada.gov)
  - [A Guide to Disability Rights Laws](https://www.ada.gov)
  - [Defining an “Undue Burden”](https://www.ada.gov)
  - [ADA Q & A](https://www.ada.gov)
- The Department of Education’s Office of Civil Rights:
  - Overview of [disability legislation enforced by OCR](https://www.ocr.gov)
  - [Section 504 FAQ](https://www.ocr.gov)
Q & A about disability discrimination in education

- **Section 504 - full text**
- **Section 504 FAQ on 'reasonable accommodations'** from the Department of Housing and Urban Development
- **Accessibility in Electronic & Information Technology info** from the Department of Health & Human Services
  - How Section 504 relates to Section 508
  - Accessibility Accomodations in EIT systems
- **Understanding Section 508**, from the General Services Administration
  - Section 508 and related laws & policies
- **Michigan Disability Resources** – your state likely has similar services/resources

### Slide 36: Resources: Evaluation Tools

- Note: Firefox is probably the friendliest browser for most screen readers/assistive technology programs
- Try a screen reader yourself:
  - **WindowEyes** (free with Office 2010+)
  - **NVDA - NonVisual Desktop Access** (free, Windows-only)
  - **VoiceOver** (built-in accessibility software for Mac OS)
  - **JAWS Screen Reader** (expensive: $900-1100 for an individual)
- **Fangs Screen Reader Emulator** – a Firefox extension that emulates what a screenreader would see from a webpage.
- **WAVE (Web Accessibility Evaluation Tool)** from WebAIM – identifies accessibility issues for web pages.
- **Accessibility Checklists**
  - **Section 508 compliance checklist** from WebAIM
  - **WCAG checklist** from WebAIM
  - **Making Files Accessible – checklist** from HHS
- **6 Tools for a More Accessible Website**
- **Using Acrobat Pro's Accessibility Checker** – from Adobe

### Slide 37: Resources: Creating Accessible Content

- **WebAIM Guides**
  - **PDF Accessibility**
  - **PowerPoint Accessibility**
  - **Word Accessibility**
  - **Other Accessibility Guides**
- Microsoft Office support on PowerPoint Accessibility
- Creating Accessible Documents in Word – online training module from Microsoft
- Creating Accessible PDF Documents – video tutorial from the National Center on Disability and Access to Education
- Accessibility Resources for Adobe Programs
- Making Files Accessible – a comprehensive guide from HHS
- Creating Accessible PowerPoint Presentations – from Michigan Disability Resources
- Creating accessible PDFs in ABBYY FineReader – guide from Berea College

Slide 38: Resources: Additional Links

- Accessibility Resources - useful resources from a captioning company
- The Digital Commons Google Group has a few discussions of accessibility – talk to your bepress support rep if you don't already have access to the group
- A recent Scholarly Kitchen Guest Post on Accessibility
- Annual Disability Statistics Compendium – extensive database
- Accessible Best Practices for Publishers – comprehensive guide aimed at larger/commercial publishers, but many sections relevant for library publishers using Digital Commons
- Risk Statements & Evidence – Risks of not addressing IT accessibility, from EDUCAUSE
- Accessible Electronic Resources for All – webinar slides on accessibility in libraries
- Accessibility from Scratch: One Library's Journey to Prioritize the Accessibility of Electronic Information Resources – case study from Kiersten Ostergaard at Montana State
- Michigan State University LibGuide on Accessible Materials
- Settlements from the Dept. of Ed’s Office of Civil Rights Investigations:
  - University of Montana Agreement Resolution
  - Penn State Settlement
  - UC Berkeley Settlement
  - Dept. of Education press release on further settlements