LILY BOND: Thank you for joining "Creating Accessible PDFs With Acrobat-- Requirements, Implementation, and Evaluation." I'm Lily Bond from 3Play Media, and I'll be moderating today.

I'm lucky to be joined today by Jonathan Avila, the chief accessibility officer at SSB BART Group. He's going to have about a 50 minute presentation, and we'll follow that with 10 minutes for Q&A. And with that, I'm going to hand it off to Jonathan.

JONATHAN AVILA: Great. Thank you, Lily. OK. You should be able to see my PowerPoint presentation. So today, we're going to be talking about Adobe Acrobat Accessibility, and we're going to be focusing on the professional version of Acrobat.

And the slides today are going to cover the latest version, which is Adobe Acrobat Professional DC. But the concepts in today's presentation can also be applied to prior versions of Acrobat. In particular, the accessibility features are very similar to where they were in Acrobat 11.

OK, so we're going to start off with kind of an overview PDF, the user impact on people with disabilities. We'll talk a little bit about the requirements, the laws, and the standards that apply here, talk about the publication and workflow process, native documents. And then we'll jump into Adobe Acrobat Professional itself, and I'll kind of explain the accessibility features and some of the tools for making documents accessible. And then we'll show you how to do some checks, and then we'll provide some best practices and resources. So that's kind of the flow that we'll go today.

So real quick, my role at SSB BART Group is kind of to maintain our accessibility methodology across many different platforms. PDF documents happens to be one of them. Also mobile, web, software, hardware, et cetera.

OK, so jumping right into PDF. A lot of people say something like, well, PDF is a closed specification. It's not accessible, comments like that. So I want to just clear up real quick what PDF is. It's an open specification. It is currently published by the ISO, which is the International Standards Organization.

PDF documents actually can be made accessible. There's lots of different types of PDF documents. There's basically stack documents that you generate, like a brochure or a research paper. There's also electronically fillable forms, and then there's dynamically

generated content.

So perhaps content is created by Adobe LiveCycle, or some other technology where maybe an interactive form. When you perform an action one place, it generates content somewhere else. So those are kind of some broad categories for PDFs.

In addition to the actual accessibility of the format itself, you have to be able to read the PDF using a reader, such as Adobe Reader. There's Adobe Readers for Mac, for Windows, for mobile devices. Up to this point, the support on mobile devices for accessibility has been very limited. So the document format has the accessibility information in it if it's been authored correctly, but the readers on the mobile devices historically have not provided information to that.

So for example, on iPhone, a person who is blind may be able to hear the text in a PDF document, but they don't get information such as information about headings, or information that a particular piece of text is a list item, or maybe that there's a table in the document, or those types of things, so those don't come through our mobile devices. Up until the latest version, that support was also not available on the Mac with Adobe reader. But as of the latest Adobe Reader DX, there's now accessibility support on the Mac for the Mac screen reader, which is called VoiceOver. So a lot of those features are now available to the end user on the Mac platform.

So also, when we look at the user impact of accessibility, people historically think about people who are blind or visually impaired. And they say, well, OK, how can we make this document accessible to someone who's blind using a screen reader? There's other people who might be using text to speech in addition, for example, people with cognitive or learning disabilities.

Also, there's other aspects of authoring that you may not consider. For example, if a document contains interactive controls, such as form fields or links, those controls have to be keyboard accessible and in the correct order for someone who may not be able to use the mouse. So there's a larger component to making documents accessible. There's also people who have low vision who may need to reflow the document in such a way that they enlarged the text but that they don't have to scroll horizontally and vertically to read the documents. So there's a lot of other considerations that we'll talk about in today's presentation.

OK, so moving on to the requirements, the laws and the standards that apply, Section 508, its Federal Procurement requirement requires comparable access for people that have

disabilities compared to the general public or the employees that don't have disabilities. Section 508 originally was effective in 2001. It's actually being refreshed.

We're very close to having the refresh finalized, but we're not there yet. Specifically, the refresh does call out the documents need to be accessible. These are documents that support the mission of the agency.

So there's, I believe, eight or nine different categories of documents that the public or employees would need to use that have to be accessible. And they specifically do talk about PDF format, such as PDF/UA, which I'll talk about in a moment. So it is very relevant to Section 508. Even before the refresh, most agencies require that PDF documents be compliant.

There's also something called Section 504. It's part of the same Rehabilitation Act of 1973 that Section 508 was part of, and it basically requires that accommodations be provided for federally funded programs. So a person can't access the document. You have to provide an accommodation. You either have to make the document accessible or provide an alternative.

There's another applicable standard called Section 255. Now, this is actually part of the communications act. And so Section 255, while it's related to communications and the FCC has jurisdiction over some aspects of it, the access board, which creates the standards for Section 508, is also updating and refreshing the standards that apply to Section 255-- not the standards, sorry, the guidelines that apply to Section 255. And so they have their very similar language to the Section 508 ones where documents are called up, support documents need to be accessible for any communication devices, PDFs need to be accessible. They also call out PDF/UA once again.

And then there's WCAG too. WCAG is the Web Content Accessibility Guidelines 2.0. They're the international voluntary consensus standard that many governments and organizations choose to make their accessibility standards. And they certainly can apply to PDF document. In fact, there are techniques for WCAG that specifically tell you how to make accessible PDF documents.

There's also the PDF/UA, and that's the universal accessibility standard for PDF. It's also an ISO standard. It defines conformance for not only documents, but also for PDF readers and for assistive technologies. So when you think about accessibility, you have to think about all three of those pieces, not just a document, but the reader and the assistive technology, or the user agent so to speak, that interacts with the document.

I like to think of PDF/UA as kind of like it provides sufficient techniques to help you meet WCAG. It's not an exact match with WCAG. There's some differences between them, but PDF/UA is a very technical standard. It provides specific technical advice on how to do certain things that will help you make your document WCAG conformant, and you can also be PDF/UA conformant also.

Other possible laws that might apply would be the ADA, the Americans with Disabilities Act. It applies to employment, education, public accommodation, so there's potential areas that could apply. There's not specific guidance in the ADA around PDFs, of course, but there's definitely a need to provide communication services with people that have disabilities in ways that work for them.

And then internationally, there's the Equality Act in the UK. There's AODA in Ontario. There's Mandate 376. And while these may not specifically call out specific parts of PDF, once again, documents would be covered under accessibility requirements. Communication needs to be in an accessible format, so they're germane.

OK. So as far as the workflow process, really, there's no magic make-it-accessible button to make PDFs accessible. It is a process. It does require human and automated testing.

Definitely needs to be something that you think about upfront and throughout the workflow process. And there's not necessarily one technique that's going to work for every situation. There's several tough techniques that may be usable to achieve the desired results.

So it's important to think about the way that PDFs are generated. Most times, they come from a source document, a native format, such as Microsoft Word or InDesign, and then they're converted into PDF. This is similar how maybe other things go the same trip. For example, EPUB, or HTML, or other destination formats. So when you're thinking about your native document, you really want to incorporate accessibility into the design of the document.

So when we're designing the colors of the document, the layout, those types of things, you really want to think about accessibility with that. If you're going to try to remediate things after the document's been created, some things just can't be fixed, and some things are going to be too costly.

If you change your document after you've tagged it, you will have to go back to the original,

make the changes, and re-tag it again. So whatever accessibility you can put into the native document will get you further along in Acrobat. And so there's still work you probably will have to do in Acrobat to make the document accessible, but it will be less.

And then the last point I want to mention is just prioritization. You may have loss of documents, and you may not be make everything accessible immediately. So you need to think about which documents need to be accessible, which documents can be archived, which documents are often used by the user, have the highest risk, or the highest [INAUDIBLE] organization, or perhaps the highest benefit to the user with a disability.

So moving into the native document preparation. So one of the first things that I say is not everybody can be trained right away on accessibility. And some people may not have the skills to always do some of the advanced stuff, so it's very helpful to create templates for accessibility. So if you create a template that's accessible, and then that template can be used among people who are new to accessibility, you're going to get a lot further.

So some things to think about when you're creating a template-- the use of color, the use of contrast. So that's the difference between the luminosity or brightness between the text and the background, or whether you have images behind the text, which can be very difficult for some users with visual impairments to read. They can also be distracting for people that have cognitive disabilities.

Also, the style. So if you've ever used Microsoft Word, you can bold text and make it bigger, say, if you wanted to make a piece of textbook like a heading, or you can use what's called a style, a heading style.

And the same thing applies in Adobe InDesign. You can style text with a style that says heading one, heading two, heading three, rather than just changing the attributes of that text. And when you do that, that style information actually will come through into the PDF format and be accessible. So that's the right way to create documents using styles.

Also, think about if you have multiple columns, how are you doing that? For example, using a table versus using the multiple column feature in Microsoft Word. If you have images, you can apply alternative text to those in the native document, and that will come through in many formats to the PDF when you convert it. Tables, hyperlinks, for example, how you name your hyperlinks, whether you name your hyperlink Click Here or whether you actually say, Quarterly Report On Employee Benefits. So providing link names that make sense out of context.

And also, in a number of the different applications, such as Microsoft Word, there's an accessibility checker. So you can run that Accessibility Checker in the native format to get information. And I believe there's also an add on you can get for Adobe InDesign to do an accessibility check.

And then you should convert your document. And so how you convert your document to PDF also makes a big difference. For example, Microsoft Word has a Save As PDF option. Adobe has a plug-in, PDFMaker, that has a Save As PDF option. And then you can print your document using like Acrobat Distiller, where you can print the document. That last option, the print option to the Distiller does not create tagged documents.

Well, the PDFMaker plug-in and the Word Save As PDF, those do create accessible tagged PDF documents. And they have slight differences, but they're pretty close in parity to what they'll generate. There's also some settings in there that you need to make sure that when you do that conversion, that the tags already created in the documents created in an accessible way. The same thing applies for Adobe InDesign. You can generate tagged PDF documents that are accessible, but you need to make sure that setting is checked.

Real quick, I've been using the term tag. I'll explain what that is. It's basically like if you're familiar with HTML where you have a tag, like an H1 stands for heading one, or you have a P for paragraph, or figure for an image, those tags, those are basically semantic ways that those tags provide meaning beyond just the visual appearance. So when we talk about tags and tagged PDF, the process is very similar to what you would see in an HTML document.

So once again, Acrobat Pro has the tagging feature to be able to manipulate and change the tags in a PDF documents. The standard version does not. There are some additional other products.

Nuance has a PDF product that will also allow you to do tagging. So there's some other tools out there-- CommonLook, for example-- which is a plug-in for Adobe Acrobat. But in general, we're going to be speaking about Adobe Acrobat Professional.

OK, so I think we've covered the process already here about what are our tags, so I'll move on to the next slide. So after you've converted your PDF document and you said you want tags to be created, you're now in Acrobat. What do you do?

So I'm proposing that one of the first steps you could do is to run what's called the Make Accessible wizard. So these screenshots are from the latest version of Acrobat, but the wizard and everything I'm going to talk about was in the current version. So if you have Acrobat 11, all the same features are in there also.

So there's a Make Accessible wizard. It's part of the accessibility tools now. So once you select that, it brings up a wizard in the right-hand panel, and it performs a number of different things. So the things it can do is it can help you set the document title.

And the document title is important because users who are using, for example, a screen reader may be switching between applications on their computer with a Command-Alt-Tab. And so as they're doing that, the document title is what's announced to them. So it also provides a distinct place where people can always look in the title bar to see that, yes, this is what this document is.

The wizard also will help you do optical character recognition, or OCR, on documents that contain images. Obviously, we would prefer that documents not just be scanned images of text, but sometimes that's the only version of a document that you have. And so OCR provides a text equivalent for that scanned image.

The wizard also will help you detect form fields. So for example, if you're converting a document from Microsoft Word, the form fields don't come over automatically, but you can use the detect form field option. And it will then convert those into fillable form fields.

You can also set the tab order, the language of the document. And why the language is important is that if you have a screen reader and the document uses multiple languages, the screen reader will actually switch the speech synthesizer to pronounce the words in the correct dialect or language, if it's set appropriately in the document and on the text that's in a different language. So that's for assistive technology, such as screen readers, that may be used by people who are blind, visually impaired, or have learning or cognitive disabilities.

There's also a feature to add tags and document if there are already not tags in the document. So maybe you've converted the document from another format that doesn't support tagging, perhaps Quark, or maybe something else like Photoshop. Hopefully you won't be using Photoshop, but I have seen that. You can add tags also through the wizard, and there's several other ways to do the tagging, and we're going to get to that in a minute.

And you can also set alternative text. What I like about the accessibility wizard and the alternative text feature is that it actually takes you through each image in the document, and shows you the image, and says type in the alternative text for this image. So you don't have to hunt around for all the images. It just walks you through.

So for example, if you were not able to put the alternative text in the Microsoft Word or in InDesign and you need to put the alternative text in here, this is where you could do it. If you've already done that, it's not going to prompt you to add it again because it already sees it's there. And the last step of the Make Accessible wizard is the Accessibility Checker.

And when you run the checker, it has a set of 30-some different checks, and these are some potential checks. There are things that can be done automatically or semi-automatically. They are some of the things that get you towards WCAG, or get you towards PDF/UA, but this checker does not fully check for PDF/UA or WCAG, unfortunately. It's to get you along in the process.

And this full check can also be run separately. So if you don't want to run the Make Accessible wizard, you can actually run the full checker from the accessibility tools pane, which I have displayed on the right-hand side also.

So when you're done running the checker, it displays an Accessibility Checker panel in the left-hand side, and it shows you all the issues that were found in the document. It has green check marks for the things you passed, may have a yellow triangle by something that potentially could be an issue, or it could have a red X on something that's seen as a failure. And then as you select things in that tree, it highlights them in the document.

And then if you right click on them, you'll see lots of different options in a context menu. So for example, you can get more information about the rule by choosing the explain option. Or perhaps if you know that this is just a false positive, you can choose the skip rule.

You can also be taken from the object into the Tags panel or the Content panel, and I'll explain in more detail what those panels are, but this allows you to quickly find the actual tag that's associated with this particular object. And then you can recheck again, and you can generate a report.

Reports are nice because if you've passed, you can generate a report. You can attach it to your document. So that can be part of the workflow processes. After I create the document

and convert it, I fix everything, I have an accessibility report that says it passes these checks. It doesn't mean it's fully accessible, but it passes these checks. And then I can move it along to the next process, which might be further along, with QA or something that tests the document in more detail, for example, with assistive technology.

OK. So let's talk about setting up your environment for tagging documents, for making documents accessible. So what I always recommend are three different tools that I'd like to put on my Quick Access toolbar.

The first one is the default pointer tool. So it's that blue pointer that's up there, and that's great for selecting text and images. And then you can tag those or do different things with them. The other one is the Accessibility Touch Up Reading Order tool, and this one is not on here by default, but you can add it to your Quick Tools by reclicking on the toolbar and then choosing Customize Click Tools.

And once you add it there, it will then appear on that dot dot dot button menu, and there's also a short cut key associated with it, but there's lots of great hotkeys in Acrobat. So you're doing lots of tagging. Your hand using the mouse can be very tired, and you may not be able to use the mouse. So there's lots of great keyboard access in Acrobat to help you help users and people tagging documents.

And the last tool is under the print production section. So if you go to Customize to Quick Tools, there's a print production, and it's called Edit Object. And it's kind of like a pencil with blocks is the way it looks.

That Edit Object tool will allow you to select objects on the page, and those objects kind of represent the tags in the document. So you can use that tool also for tagging. So those are the three tools I like to add to my toolbar before I start.

OK, so let's talk about implementation panels. So there's three main panels in Acrobat that deal with accessibility. The first one is the Content panel, and that's actually the content. I'll explain in more detail in a minute. Then there's the Tags panel.

That's the accessibility representation. That's semantic H1, H2 for headings, the table for table. It also is an order. So think of it like a tree structure.

And then we have the Order panel. So I'll explain all these in more detail, but some warnings upfront. There's really no undo feature. So like if you make a mistake, sometimes it can have

serious consequences, depending on what panel you're in.

So I recommend saving your file often, save with different names. So if you need to go back a version, you can go back to the file that has a different name. That happens sometimes if you make a change that you don't want and save your file, you can overwrite your last version. So I recommend doing that.

And sometimes, the structure tree, the tags tree just gets in a state where you can't really fix it in Acrobat. Sometimes you need to use either blow away the tags in that page, or sometimes pages, or you may be able to use a tool, like access PDF Quick Fix or CommonLook to fix the mistake in the tags tree. I don't always know what happens, but sometimes things happen. We just can't get the document working right.

OK, so after those disclaimers, let's jump into the first panel. And I'll take a while to explain these, because there's a lot of confusion about these different panels and what they do. And unfortunately, it's where we're at.

So the Content panel, all these panels can be found in the Navigation panel area, which is on the left-hand side of your screen. They can be accessed with the menu also, using the view menu. So the Content panel actually represents the content streams of the document.

So when the document's generated, think of it like a print stream. All the information's written to the document, and there's some native role information that comes from the document. So if you generate from Word, some of that information is part of the stream, so whether it's a paragraph, or a table, et cetera.

There's also an order. And so the order in the Content panel, you think of it like a stacking order or a Z order. So the way the content's written one after another, things can be overlapped. So if sometimes you have text that appears over an image or appears over top of another object.

Changes in the Content panel can actually sometimes hide content. So you can end up having something that appears to disappear in your document but is actually hidden behind something else. So consider that.

Also, if you delete something from the Content panel, it will actually delete it from the document. So you can actually lose content here. So you may want to avoid the Content panel

or be very careful if you go into the Content panel because of these issues.

The next one we have is the Tags panel. So the Tags panel is the order that's used by assistive technologies. So if you have a screen reader, like NVDA, which is an open source free screen reader, or JAWS for Windows, which is another very popular screen reader, it will read the information to the user in the order that it appears in the Tags panel. And this order in the Tags panel can be different than the Content panel. So they can be two separate orders.

If you make changes in the Tags panel, it does not affect the visual representation. So if you change the tag name, if you move tags around, it's not going to make any changes visually to the document. So this is a more safe place to play around.

The Tags panel can also do some advanced things that you can't do other places. You can create lists, and do things with links, and you have a lot of flexibility to restructure things in the Tags panel. For example, you'll see that there's a hierarchy tree.

So you can have things, elements nested in such a way that you could organize things that make sense, even if the organization doesn't necessarily always come through to the assistive technology. You can also assign what's called actual text. So if you have a symbol on screen and the symbol, say, is a Smiley face and the screen reader doesn't know how to read that, you can provide basically a replacement text for that symbol. So you kind of have to use the Tags panel for that. So there's just some things you have to do in the Tags panel.

The Tags panel is actually very keyword accessible. So you can copy and paste tags around. You can select multiple tags with the keyboard using shift and the arrow key. So it has a lot of great keyboard support. I do a lot of work in the Tags panel, but that's where advanced users tend to gravitate to.

And then the last panel is the Order panel. And it's kind of paired with a TouchUp Reading Order tool. So this TouchUp Reading Order Tool is this dialogue that's displayed on screen. And basically, the idea is that it has this box in the upper right where you click.

It has a cross cursor, and you can select items on the screen. And once you select them, you can choose one of those buttons in the dialogue. So you want to make that text you just selected.

You want to make it a heading. You want to make it a figure. You want to make it a table. The idea is it was meant to be very simple for people to use. Select what you want and tag it.

And with the TouchUp reading order dialogue, it's usually paired with the Order panel, which I have displayed on the left-hand side. And the Order panel can display numbers showing you the order of the document, or you can also have it display the tag names of the items, whether it's a paragraph, or a table, or a figure, et cetera.

So the idea with this Order panel is that if you made changes using this TouchUp Reading Order Tool in Word panel, it was supposed to go in, and make changes in the tags panel, and make the same change in the content panel, and it was supposed to keep the Tags panel and Content panel synchronized together. But what can happen is they can become unsynchronized, especially if you do use just the Tags panel. If you're making changes to the Tags panel, it's not going to change the order in the Content panel, whereas if you use the order panel, it tries to change something.

So if you move something around on the order panel, it'll move the order in the Tags panel and in the content stream. So that's preferable. So this tool seems like the preferable way to do things because it keeps everything in sync.

Some of the challenges are that it still can get out of sync. It doesn't allow you to do everything. As I mentioned, there's just some things you have to do to the tags panel. And also, if you're changing the order in the content panel by using this TouchUp Reading Order tool, things can still disappear in the document because you're affecting the content panel.

So you could think, well, I'm just using the Order panel and now something's disappeared in the document. It's still there, it's just hidden behind something else. So it's not the perfect solution, and so it's really what we have.

There is a lot of confusion among these different options. But I can't explain everything today. I just wanted to give you kind of the big overview of it. There are a couple other great features in the TouchUp Reading Order Tool that you'll probably want to use, even if you do use the Tags panel mostly.

One of those is the Table Editor, and also, like I said, it has that box in it, which allows you to have a cross cursor and you can select content. You can use that selection cursor from the Reading Order TouchUp Tool. You can use that with the Tags panel too. So that's a great tool to have.

So I'll explain a little bit more about the Table Editor in just a minute, but first wanted to say, OK, say we have a situation where you need to do something. Which tools did you use? So if you want to look at the reading order or change the reading order, you could use the Tags panel or the Order panel.

A lot of times, you may end up using both. You may end up making sure they look correct in both of these panels. If you need to change semantic meaning of something-- so if something needs to be marked as a paragraph or figure, you can use either one of these.

If the links are not accessible in your document or you need to create list tags or notes-- say you have footnotes-- you'll need to do some of those things in the tags panel. The tags panel also has what's called the object properties dialog. And so when you right click on an item in the Tags panel, it pops up a dialogue, and it gives you some choices.

On the screen here, one of the choices are changing the tag. So you can actually change the tag to something else. You can also put in actual text.

So that's the text I was talking about before. If you have a symbol and you need a replacement text because that symbol will not be understood by an assistive technology. That's where you would do that. It also has an alternative text field that you can use to provide alternative text or images.

OK, so jumping to the Table Editor, and I think this is really an important tool because tables are very time consuming if you're tagging tables for accessibility. So when you turn it on, it shows you anything that is tagged as a table. And you can change cells from being header cells or data cells. Header cells basically provide a header, a label for that column or for that row.

You can also say whether the scope is for a row or column. And if a cell spans multiple rows or columns, then you can indicate that. And this markup is very similar to HTML. So if you're familiar with tagging tables in HTML, the concepts are very similar here.

It also lets you do something called IDs and headers. That let's you associate particular header cells with particular data cells. And I'm not going to go into detail because we just don't have time today to do that.

Another challenge, Say. You have a math formula that's not an image and you need to make that math formula accessible, at this point, things like MathML are just not very accessible with

assistive technology right now in PDF. There's progress that's being made, but one option is to select that formula. You can separate it out into a formula tag, and then you can provide an actual text or replacement text equivalent for that formula.

So for example, you could just write out in English, like you were speaking it, or whatever language the document's in, you could just write that out as an alternative to that particular formula. It's not a perfect option, but sometimes that's where we are right now. If you have form fields, form fields can also be made accessible. The form tools are actually part of the form editor, which is a different tool within Adobe Acrobat.

So just a couple things to keep in mind. When you're in the Form Editor, if you right click or go to Properties or press Control-I, you can bring up the Text Field Properties dialog. And one of the fields is a Tool Tip field. This Tool Tip field is the accessible name of the control.

So this Tool Tip name will be what's spoken by a string reader or an assistive technologies to the user. If you have radio buttons, the tool tip is actually the group name for the radio button. So maybe meal selections, that would be the tool tip for each of the radio buttons. And then on the Options tab, there's a value field. And in the value field, you might put vegetarian, or chicken, or vegan, or meat, or whatever it might be as the actual option for the radio button.

And then the other thing we need to think about with form fields, of course, is tab order. The tab order generally would follow the document order, and you can then follow the document structure order. Sometimes the way you want the form fields to be filled out and the way you want them read may be different. So you can actually change the form fields to appear in a slightly different order from the document structure if you need to.

One thing we really haven't discussed so far are artifacts. And artifacts are things like lines or maybe a repeated header, footers, running headers, and footers that are on every page, other sorts of marks in the document. Those things can be tagged as artifacts, and that means they'll basically be ignored by assistive technology, and they should be kind of hidden if you reflow the document. You can do those. It's called background is the option in the Order panel, or in the Tags panel, you can right click and say create artifact out of a particular tag.

A lot of people ask us about footnotes and what to do in that situation. The best thing to do is to tag them as reference and then tag the note as a note using the Tags panel. There's no perfect way to provide access to jump from the reference, like the one to actual the text at the

bottom of the page. That's not supported right now, so you can't link to a tag. You can only link to another web page or basically a view of a PDF page.

So you can have the PDF page scroll, but the assistive technology doesn't know to jump down to that footnote. So that's certainly a problem. So one thing that some people do is they'll change the reading order to move the note right at the end of the paragraph that [INAUDIBLE] to. So this is something you can do to try to make footnotes accessible.

Another thing that's important is called role mapping. And so if you create a document in Microsoft Word, or you create it in InDesign, you're likely going to see these tags. So for example, you'll see a normal tag. And well, what's normal? Well, that's not a legitimate PDF tag. That's Microsoft Word's style, the normal style.

And so if you go to the Tags panel, there's a role mapping dialogue, and in there, it will show you that the normal style is the equivalent to the paragraph tag. So whenever you see normal, it's mapped to paragraph. So it's now the assistive technology will pick up that information.

That process is PDF/UA compliant to do that. You can actually have normal mapped to my style three mapped, and then mapped to paragraph. As long as it goes back to the appropriate PDF tag, it's compliant. So if you ever see those crazy tag names, you don't have to change them all.

So don't change all the normal [INAUDIBLE]. You don't have to do that. You just go on the role mapping, make sure that normal is mapped to the correct style, like paragraph. And if it isn't, you can change it right there, and that's all you need to do. Now those tag names may not show up in the Order panel or the Content panel, but they will show up in the Tags panel.

So you'll see normal. You'll see that in the Tags panel. But if you look at that role mapping, you'll be able to tell what normal means.

So you'll see a lot of these. You'll see chart, or all sorts of things from InDesign [INAUDIBLE]. But it doesn't mean your document's broken. You just have to make sure that the mappings are correct. Sometimes they're not correct.

And the last one on this list is watermarks. We generally say avoid them in the native document format, because when they come over to the PDF, they may not be able to be hidden. So if you reflow the document, or you change the colors of the document, they may cause some text not to be readable, and [INAUDIBLE] bit more detail. But they can be

problematic.

The good thing is you can add [INAUDIBLE] Acrobat. There's lots of different options for marking documents in different ways, so for example, if it's a draft, or it's classified, et cetera. But it is something to be aware of for accessibility.

So after you've made your changes, you want to test for accessibility. So you can run the checker again in Acrobat. You can also use assistive technologies. I talked about using JAWS, or NVDA, if it's a non-visual desktop access.

There's also a Read Out Loud tool in Acrobat. And then the Read Out Loud tool is not a replacement for a screen reader. It's something that some people might use to help them if they don't have a screen reader. There's also the Reflow option under the View menu, and there's high contrast under preferences.

So I have a screen shot here of something. I've taken a document. I used reflow so the text will wrap automatically so I don't have to scroll horizontally, and I basically told Acrobat replace the colors through the color replacement feature so I can see green text on a yellow background because, hey, that works best for me, or whatever that combination might be. So it's good to check your documents with these other accessibility features. Sometimes people forget about these.

There's also another good checker called the PAC, the PDF Accessibility Checker. It's from Switzerland, and it will check for PDF/UA conformance. So if that's a target that you need to meet, that's a great tool to assist you.

So once again, the Read Out Loud tool, it's a built in text-to-speech built into Acrobat. It's not a full screen reader. It sometimes reads the tag structure, and if you use it a different way, maybe the order from the order panel or the content panel. So it's not always predictable in that sense, but it does have a say all feature. It can read from the top of the document down.

You can tell it to read form fields as you tap through them. So it is a tool that you can use to give you some basic idea. But as I said, NVDAs, PDF/UA conformance screen reader, PDF NVDA is free and open source. So really, that's probably a good thing to be using if you can.

Text Reflow, it makes the text easier to see. So from the View menu, you're going to zoom and reflow, or you can press Control-4. It'll reformat the text so it's all one column. No horizontal

scrolling. You can enlarge the text. People with low vision would use this option.

It is possible to break it, and so depending on if the order is wrong in the content panel and the order panel, or if you've provided incorrect tagging, tag names, it can cause the reflow to break. So for example, if you nest a table inside of a figure, it would probably break Reflow. Reflow also doesn't work with form fields, so it has limitations. But people with low vision would prefer to read in this type of way where it's one column, or that's definitely a more effective way for many people to read documents.

The high contrast view. So if you go to Edit and Preferences on Windows, preferences on the Mac, under the accessibility category, there's a document color option where you can replace the colors and you can choose which colors you want to replace in the document. And you just definitely want to check this to make sure the document is as readable as possible. This isn't a perfect solution, but many people with low vision and some people with cognitive disabilities, learning disabilities, may need different colors in their document.

And this is an example of green text on a black background. Takes you back to many years ago working with monochrome screens. Anyways, so moving on to the last step, we're talking about with the watermarks. Once again, try to avoid them in the native format, like Microsoft Word. If you do have to use them, you can choose a semi-transparent option, and it will be retained in the document when it's Reflowed. So this is something to consider.

So here's a screen that shows you how to add the watermarks in Acrobat itself. We found that it works best if you set the opacity to 100% and make sure it's placed behind the text not in front of the text, so it doesn't cover it up. But these options, they're something you really have to play around with to make sure it's working correctly in the reflow and high contrast settings.

So I've provided some great resources here. Adobe has an accessibility website with some great accessibility guides on how to tag documents. There's also their VPATs. They have a good TV accessibility channel at Adobe, and they have some good YouTube videos on how to tag in InDesign.

There's also PDF techniques for WCAG if you need to meet WCAG conformance. And then also provide you some information here about PDF/UA. That is also PDF/UA has an associated-- the standard itself, you have to buy from the ISO, but it has something called the Matterhorn Protocol, and it's basically a testing checklist for PDF/UA. That Matterhorn Protocol is freely available, so I recommend downloading that and reviewing that to make sure if you

have to meet PDF/UA conformance, that's a great checklist.

And then, of course, here at SSB, we have the accessible new management platform, or AMP. AMP has a set of automatic tests it can do on PDF documents, and it can also scan your website, find your PDFs, and do some automatic testing on them. And it also provides a lot of great manual best practices for manually testing and checking, fixing PDF documents. So I think at this point, I'll be happy to answer any questions you might have.

LILY BOND: Great. Thank you so much, Jonathan. So I think we're ready to begin Q&A. And I'm going to start by asking you, Jonathan, what is the tagging process for converting from Adobe InDesign to PDF?

JONATHAN AVILA: Yeah, that's a good question. So Adobe InDesign also has a structure tree, similar to the tags tree in Adobe Acrobat. And in that structure tree, you can actually assign different tag names. It also has a process where you can automatically convert these styles that you use in your document.

So whether that be a paragraph style, or a character style in InDesign, you can have those styles automatically mapped to different tags. And those taggings, for the most part, will come through automatically. And so you can do the tagging in InDesign. You can set the order in InDesign. For some documents, it's very simple. You may not even need to use a structure tree.

Another option is also what's called the Articles panel in InDesign, and the Articles panel also dictates what content is tagged and the order in which it's tagged if you choose to use the Articles panel. So there are a couple different options, but you can create very accessible documents from Adobe InDesign.

LILY BOND: Thanks, Jonathan. Another question for you. If you make some substantive changes to the source Word doc, is there any way to copy the remediation edits in the PDF, or do you have to start all over?

JONATHAN AVILA: So usually, you would have to start all over again. Adobe Acrobat has actually gotten better about allowing you to actually edit the document in Acrobat. And so if you've embedded your fonts correctly from when your document was created, sometimes you can actually make changes in the Acrobat.

And if the changes are minor, say a misspelling here and there, or you don't necessarily move things around too much from one page to the other, you can often make small tweaks in Acrobat. But otherwise, if the change has pushed something on to another page or more substantive, you really have to regenerate your document from Microsoft Word. And that's why we recommend doing as much accessibility work in the native format as possible.

So that's putting your alternative text and your images in Word, using the layout format. Like if you're using multiple columns, use that tool. Use the list feature in Word. Use the styles for headings. That way, when you do the conversion, there's only a minimal set of things that you have to do.

LILY BOND: Great, thank you. Someone is asking if these features are available in the Mac versions of Acrobat.

JONATHAN AVILA: Yes, they are. For Adobe Professional and InDesign on the Mac, these features are accessible. As far as Microsoft Word goes in tagging documents, up until this point, there has not been a PDF maker that creates tagged documents from Mac for office, so that is a challenge.

LILY BOND: Great. Similarly specific question, is the content panel and the tags panel available in Acrobat 11?

JONATHAN AVILA: Yes, they are all available. And even in prior versions, those particular features were there. In 11, the accessibility checker was updated. So the number of checks are different, but a lot of the other features are even in Acrobat 10 and 9 and in prior versions. So they've incrementally been adding things.

The accessibility experience that really changed from 11 to 12 was mostly the UI is what changed. But Adobe says they also made improvements to how high contrast is displayed for the user, and they renamed a couple things. And then of course on a Mac, adding accessibility and support with screen readers on the Mac, both for the user interface and for the actual document content, that was where a lot of the big changes were.

LILY BOND: Thanks. So what is the best way to tag page numbers and chapter titles that appear on each page of a document?

JONATHAN AVILA: Great question. So the proper way is actually to use the Pages panel in Acrobat. And in the Pages panel, if you click on the page and right click on it, there's a Properties. And from there,

you can actually put in section and chapter information there, and that information will appear in the page number item that's on the toolbar, and that information should also be accessible to screen readers. So that's the appropriate way to do sections, chapters, and that type of stuff for pages.

Sometimes there is stuff from headers and footers that you can't put there, maybe legal disclaimers or other types of things. And in those situations, you obviously can't artifact that information. I recommend trying to take an approach that is such as making it available on the first and last page perhaps. And that way, it doesn't mess up the reading order on the other pages.

One of the issues with this running headers and footers is that when you're reading from one page to the next, that would potentially mess up the reading order of the content. So where it is a true running header or footer, you may have options to put it on the first and last page. It's one of those situations that you have a lot of flexibility if you're looking for WCAG conformance, because WCAG I don't think specifically forbids you to-- that you have to artifact that information. But PDF/UA is a little bit more strict in saying that headers and footers should be artifacted. But I think there are some exceptions in the latest 1.1 version.

LILY BOND: Thank you. Do you have any tips for making maps accessible?

JONATHAN AVILA: Yeah. Maps certainly can be a challenge. I think the idea is what you want to get out of the map. So what's the point of providing the map? So if the map showed a list of train stations, you may be able to use a list structure to provide similar information. So you may want to look for the nearest semantic structure that gives you what you want.

Sometimes it's not available. In other cases, the point of the map may be to show you major cities, or maybe show you anything-- resources or whatever it might be. So it really depends on why the map is there.

So look at that first, the function, the purpose of it. Try to emulate that structure. If you can't, providing alternative text or maybe alternative text and a long description of it.

A lot of times, there's some information that may be able to provide it in a table. So perhaps adding an additional page with other information is an option. But there's not a perfect solution for maps.

LILY BOND: Thank you. So someone is asking, if you're using styles in PowerPoint or Keynotes, do those carry over to PDF in the same way that they do with Microsoft Word.

JONATHAN AVILA: So PowerPoint, at least on Windows, does have a tagging option or plug-in that's available. And it is not very good from my last time I checked it. It has the mappings, the role mappings are incorrect. So you would need to go in and change those role mappings. We've seen situations where I believe it was just this particular tool mapped the headings to artifacts, and some craziness like that.

So for Windows, there is some support, but it's not very good. As far as Keynote, I don't know. I do know that LibreOffice and OpenOffice does provide also some good tagging options for PDF. I haven't tried it on Mac recently, but I know on Windows, it did. I'm assuming it does on Mac, too.

LILY BOND: Great. Thank you. How long approximately does it take to do the accessibility set up and testing for an accessible PDF?

JONATHAN AVILA: Well, really, it depends on the type of the document that you have, whether it has lots of form fields, or whether it's images or pages or tables, especially when you're talking about fixing documents. Paragraphs and things like that are really easy. Simple images are easy.

But when you get into complex tables, where you may have a header that applies to some cells in the column but not all cells in the column, and so you need to do a special table markup for that, now that can be very time consuming. Sometimes the other tools that are out there, such as CommonLook, will assist in that process to make it more quick.

As far as just testing-- running the check, running with assistive technologies-- it really depends on the content type once again. You've got to compare what's being announced by the assistive technology, with what's on the screen. We've also got to make sure that the person knows how to correctly use the assistive technology.

So sometimes, if you have someone who's not an AT user, but they're using the assistive technology, they may think it's not working when it is or they may hear it speaking something and assume it's working correctly, but it's maybe not speaking the right information. So it does take somebody who's knowledgeable to do some of that testing.

I don't really have a specific number that I can assign to it, but I would say the best thing you can do if you need to quantify it is to do some samples, and ones that have images, ones that

have forms, ones that have tables, and then it also depends on the format it came from, the source file. So try different source files and compile thsoe times, and that can help you come up with estimates.

LILY BOND: Great. Thank you. Another question here, when Google Docs are transferred to PDF, do they transfer well?

JONATHAN AVILA: I don't have the answer to that. I do know that if you are creating PDF documents from certain formats-- for example, there are some plug-ins that allow you to create content accessible. We use one in our AMP product called Apache FOP, and it takes basically a structured XML document and creates a tagged PDF out of it.

So certainly, those options are available if you have other software that are going to generate PDF reports, for example, like financial institutions, et cetera. There are options. I don't know specifically about Google Docs.

LILY BOND: Great. Thank you. A couple of people are asking if you could briefly explain the difference again between the content and the tags tools.

JONATHAN AVILA: Sure. So the content panel is actually the print stream of the document, so when it was created from Microsoft Word as the content was basically written. And so some of that semantic information comes through from Microsoft Word, paragraphs, lists, et cetera. That's actually the actual content. So the content panel, if you delete something in the content panel, it actually deletes it from the document.

Now, the Tags panel, the Tags panel is basically like an additional tag structure that kind of maps to the content panel. So this additional tag structure, you can freely delete and move things around in there and it doesn't actually delete the actual content in the document. It doesn't actually move the actual order of the content in the document like it would in the Content panel. So it's less prone to accidents.

The challenge there, of course, is that some tools, like Read Out Loud or Reflow, use the ordering from the Content panel. And so normally I would just say, just worry about the Tags panel because that's what you need for screen readers. But there's these other tools, such as Reflow, that use the content order. So that's why you do have to be cognizant of both of those orders. I'm sorry I can't explain it better than that. It's historically been an issue, just it was a design decision, I guess, that Adobe made to try to simplify things, and it's created some

confusion.

LILY BOND: Thank you. I think that explanation was actually very helpful. So I think we have time for one more question here. And so Jonathan, final question, what are the best online resources to reference when making PDFs accessible?

JONATHAN AVILA: There are some resources that I've provided. As I said, our AMP product provides a lot of great information on making PDFs accessible. Also, webaccessibility.com is an SSB site that provides some community information about that also that's open to the public. As I mentioned also, there are some great documents that Adobe has on tagging and creating accessible forms using Acrobat Professional, but those are on their accessibility website.

There's great PDF techniques, what are called sufficient techniques, for WCAG. So if you go to the Web Content Accessibility Guidelines 2.0, you go to that site and you look at the techniques, those are different techniques that are known to pass the success criteria. So those are good places to start.

LILY BOND: Great. Well, thank you so much, Jonathan. That was a really wonderful presentation, and people have appreciated it so much. So thank you for being on the line.

JONATHAN AVILA: Great. Thank you, and thank you for everyone for attending.

LILY BOND: Yeah. Thank you, everyone, for joining us, and I hope you have a great day. Just a reminder that we'll be sending out an email with a link to the recording of this webinar as well as the PowerPoint presentation. Have a great day.