So welcome everyone, and thank you for joining our accessibility for designers course today. We have our senior accessibility consultant, Alice leading the training for you.

As part of Alice's role she provides in depth auditing of web and mobile websites and applications, and carries out design wireframe and specialist assistive technology reviews for a wide range of clients across the public and private sectors.

Just a couple of kind of housekeeping bits for today.

So you know, we do have live captions on, being used, you can turn these on and off if you wish to do so there's some live captions button on the bottom of your screen.

And we will be providing you with a copy of the slides, a transcript, and the recording of the session. That should come back to you within the next few days.

As we are using zoom webinar, you'll notice you are automatically muted. And we just ask that you use the q and a window to ask any questions that you may have.

And the chat window for any general conversation, myself and Eu from AbilityNet will be available on the chat throughout as needed and Alice will pause throughout the session to answer any of the questions that you are putting in.

At the end of the session we will present you with a feedback form. And we just appreciate if you can take five minutes to complete that that'd be really helpful.

And you can put any follow up questions that you may have in there as well.

Just a brief little bit about that and here we are in case some of us the first time you've been with us, we have a technology charity offering a range of free and paid for products, services and resources at home, at work, and in education.

Our vision is a digital world that is accessible to all.

Some of our products and services that we do include digital accessibility consultancy auditing and training. Accessibility accreditation and diverse user testing.

This is along with services that we do in the workplace and in higher education, supporting with consultancy, training, assessments, helping everyone to reach an inclusive environment for all.

And all of these services help support our free services, where we have a wide range of resources available and advice information line and a team of over 300 volunteers in the UK and supporting individuals at home.

And just to make you aware we do have kind of a full training program this year which you can see the next quarter up on the AbilityNet website.

And just so you know we've got a few come up in the next few weeks, you've got how to create accessible documents and presentations. Next week on the fourth. How to grow your accessibility maturity model for HE and FE professionals on the 10th of February, and the first of our long awaited PDF accessibility training on the 11th of February, with an InDesign training the following week.

We do have discount code for anyone that books on to any subsequent courses. So you can use AbilityNetTraining10 for a 10% discount in the future.

And now I’ll, I'll hand over to Alice, and hope everyone enjoys their training today. Thank you.

Hi everyone, thanks very much Helen.

And so welcome everyone thank you very much for joining today's training.

I just wanted to start with a quick recap following on from Helen’s message about the training. We do also offer a free webinar about introduction to accessibility.

So this covers things like definitions what accessibility is moral legal business and universal reasons for accessibility. And the next one of this is repeated on the first of April, so if you're interested in that, then it's free it's really informative.

But today. Today's the accessibility for designers webinar. And today we're going to be talking about, inclusive design. What is WCAG. Flexible layouts contrasting use of colour, non text content visual ordinances and movement and interactive content,

as you'll probably have noticed on the video, I do have two screens so apologies if I'm moving between them.

And, but today we're going to cover accessibility considerations for web designers, predominantly.

But there's also content that's relevant to UX professionals and content creators.

And there isn't any code examples, but we do run an accessibility for developers course if that's an area that you're also interested in.

It's also going to be plenty of time for questions, so please feel free to ask any in the q amp a panel, and we'll get to them at the sections, the question sections.

So let's start with. We're going to start with a poll, and just to get an idea of how confident you are at with accessibility.

And so, I'll start sharing it in a second but just so you were, it may not be available on your screen so depending on how you're viewing this webinar.

It may not pop up. If it doesn't, I'll read out the question. It's available on the screen. anyway, and just put your answer in the chat panel.

So it should not be shots so the question is how confident are you of accessibility and the options are not as all confident, somewhat confident moderately confident, and very confident.

I'll just give me a few moments to answer this

question again is how confident are you with accessibility.

Not so confident, somewhat confident moderately confident, or very confident.

Great, so it looks I've got a range of not at all confident or somewhat confident, so and I really hope that in this webinar.

You'll have a good understanding of some of the kind of basic overlap underlying things to think about with accessibility and design, we cover quite a lot of topics but as Helen said you'll get the recording as well so you'll be able to go back and look

at them. And it's all quite high level.

But if there's any questions you've got specifically then please feel free to ask them at the q amp a sessions.

So let's get started. So the first section we're going to talk about is inclusive design.

So when we're thinking about disability, we can largely divided into four different areas, but it's important to state that these are groups of impairments.

They're not groups of people, and people may experience more than one of these.

Everyone has different abilities as well as different experiences of their disability.

And there's also a range of in each, so for example motor.

You might have someone who has a mild tremor through to someone who has very little voluntary movement with vision.

You might have someone who has a mild visual impairment or may be completely blind.

Or it could be someone who's colour-blind hearing could be someone who's deaf or has a mild hearing disability or could be someone who has a speech impairment or a stutter where things like Alexa, or voice activation may be a challenge.

And finally, cognitive, this may cover someone who has dyslexia or autism or someone who might have some mental health issues, but cognitive covers a very wide spectrum, and there's many different impairments underneath cognitive.

But accessibility is the degree to which access is available to as many people as possible. So, it leaves us thinking not about one size fits all approach but actually recognizing that there's diversity and designing for it.

So, this helps us build and design products that benefit everyone.

So this is known as a design methodology, known as inclusive design, and this is by design products and services that are usable to as many people as possible, and an important aspect of it is that users should be able to adapt it to meet their own requirements,

so they might have.

They might have low vision, and they might want to view the text that a larger size and it's important that they're able to do that.

And there's also a user's impairments might not always be permanent and addressing potential barriers can benefit everyone, so they may have a short term injury, such as they might have an arm injury, but when they have now arm injury, they may temporarily

experienced some of the same barriers as someone who has a permanent injury such as having one arm, or they may be in an environment where they may be experiencing a situation such as they may be on a bus where it's loud and crowded and playing a video

wouldn't be appropriate in that setting, so they might want to turn captions on.

So disabilities can be either permanent temporary or situational, and this resource that Microsoft inclusive design kit toolkit is a really good one to look at.

But we also want to make sure that the needs of users with disabilities are met. So there's the web content accessibility guidelines which can help outline some of the requirements of web content.

So the Web Content Accessibility Guidelines, they were created by the World Wide Web Consortium, and they aren't internationally agreed standard for web content.

And then also the basis for a lot of other guidelines.

And they apply to all web content and mark-up. So, this is things like the structure and the code, as well as the design and the colour schemes.

The text and images.

So it applies to the whole journey.

The current version is WCAG 2.1. As of June, 2018, and 2.2 is in development.

But the 2.1 release, at this reflects that there was a lot of changes in technology since the one prior to that which was actually 10 years prior.

They are broken down into four key principles, and each principles has a set of guidelines, and each guideline has a number of different success criteria.

And these the success criteria are the testable aspects of the guidelines.

There also different levels so we've got a double A and triple A.

So, the most common one to aim towards is the double A requirements.

And finally, these requirements, so these guidelines are also technology agnostic so it doesn't matter what technology you're using, they do apply to all ICT.

So the four key principles of the web content accessibility guidelines are that they are perceived as more understandable and robust. So perceive or is that the information should be the user should be able to see all the information, and perceive it.

So if you think about an image, for example, is that text alternative for that image so that aside, a non-sighted user can still access that information is operable so everyone dots.

You want to ensure that everyone has the ability to interact with their digital content. So you're discussing content regardless of what they might be using to do that so they might be using voice control, or they might be using Braille or switch controls.

So, regardless of which one they're using. It's important that they can operate.

It should be understandable as well so you want your text content to be readable and understandable and start things behave in a predictable way and users have support when it comes to a process to such as formed.

And finally, you want your content to be robust as well. So, using maybe using a different operating system, or there might be on a mobile phone or tablet, or they might be on an older device.

So it's important that regardless how they're accessing your content, they still have a comparable experience.

So today we'll be looking at best practices as well as WCAG.

I'll be looking at the guidelines that relate most to design. This is one of the an example of one of the success criteria is just to kind of show you what, how they might be laid out.

So this one is the very first one which is 1.1 point one.

And it is non text content. So, this requirement is that non text content has a text alternative that serves an equivalent purpose.

So, this wouldn't couldn't come across quite vague if you're if you've not come across it before so things like what is meant by non tech content.

What is meant by text alternative, and equivalent purpose. These can all be terms which and maybe quite hard to understand that if you aren't haven't used the guidelines before, but it was essentially talking about is things like images and icons and

and making sure that there is a text alternative for them. So, written out in text so that I screen me to use a can interpret that image. So you want to be able to communicate the information through text as well.

So if we look at the example on the right, just providing text does not necessarily mean that you meet the criteria for this so we can see that the image on the right, it has a text alternative T.

However, if you look at the image that T does not accurately represent what that image is showing.

So actually, it doesn't serve an equivalent purpose for the user.

So we want to make sure that that image that alternative text very accurately described what that image was to provide a comparable experience.

I'll just demo this page as well just to show you what it looks like on the guidelines for Give me one second.

And so you should not be able to see my Chrome browser. So, this is the 1.1 guidelines, and it's a really good resource Have a look at if you've not had looked at it before.

This will detail all the requirements of this particular criteria, it will give you some examples. It will also give you resources to look at as well as techniques and failures.

So the techniques and failures are really good to have look at if you're not sure if something's a pass or fail or if you're wondering what sort of technique you could use in order to achieve what you're looking for.

Just go back to my.

And so, under 2.1 so when 2.1 was released some new success criteria was added. So, and these were specific to, it looked a lot of things like mobile users as well as low vision, which do affect designers quite a lot.

So, these are some of the ones that were added.

So if you look at responsive design for example there's orientation reef flow and text spacing which would have could be looked at when you're looking at responsive design colour palette, there was non text contrast so this is a really big consideration

for colour and interactions as well so pointed gestures and cancellation motion activation and character key shortcuts, but we'll be talking more all about these during the course of the session.

So we're going to start by looking at flexible layouts.

And we're going to have another poll. And so again, I'll just share the poll on the screen now.

So you should not be able to see it. The question is, do you design your website to work responsibly. And the question. The options are all the websites I design work on our responsive.

Most of the websites I design slash work on our responsive.

I'm not sure what responsive design is.

I'll just give you a minutes on snap.

asked me a few more seconds.

Oh, it's gonna be a few more seconds.

Looks like we have a complete 5050 split between those of you that all the websites shoe designer, and work on are responsive, and most of the websites you design and work on are responsive.

And so mostly all of you seem to be aware of what responsive design is, that's fantastic.

But we're just be talking a bit more about it and kind of giving some context around it as well.

So, responsive design is when you design, when your design can adjust to your users behaviour or environment, based on the screen size, or maybe orientation of your device.

This first became really popular for small screens of mobile devices. However, it is also really helpful with for users with low vision. So when you use your browser zoom, what happens is you eventually end that really reaching the same equivalent resolution

of a tablet or phone device.

So as you click, and zoom in the page gets bigger and the content actually flows and will show a demo of that in a moment.

So, responsive design has essentially the same effect when you're zooming in, or you're feeling the content on the mobile.

And one of the WCAG success criteria which relates quite heavily to. Well, responsive design can really help with this is we flow.

So what this means, generally speaking, is that your client, you want your content to reflect in a single column, up to 400% zoom.

And this is, there are some exemptions so you might have a piano playing up, for example where this would not be required to meet this requirement.

Or you might have a compact state data table where, if the relationship between the headings themselves is essential at a certain layout, then that would also be exempt.

And, but this to really benefits users with low vision and also makes it easier to view on the mobile device, single direction of scrolling is important, and you don't want any horizontal scrolling.

So horizontal scrolling can reduce reading comprehension, and can cause problems for users who might have cognitive disabilities.

And the main requirement is that your pages remain that user can still use your pages, and they're still readable and an important thing to note is it's not, you don't want to disable responsive designs for desktop views and I'll show you what I mean

by that in a moment.

You can simplify your content on a responsive view so you might want to, as we can see in this example here, and the content in the cookie is in one column and the button is stacked on top of the other wall on the desktop view, you have them next to each

other. It's, you can simplify it, if it helps to make the screen, and we flow properly, but important to note that you should still maintain your touch target size so, and you want to make sure that items on your mobile device are clickable.

And so I'm not going to show you a good and a bad example of this. And so

if we look at this example.

So to zoom in, you just click Control. Plus, and you can see that the screen starts zooming in. If I.

You can see as I get closer and closer to 400%, the content has reflow.

I can see the menu has now become in a behind the button, and the page images now 100% inputs and I 100%, I can see that all the content is in one single column.

But we can also say that this is how a user would access this content on a mobile.

Now if you look at a different example on Wikipedia. So if I zoom in here.

I can see that the content is free flowing, and it's filling the space, but when I hit a certain point, it stops and I get a horizontal scroll bar at the bottom so you can see here, there's actually a horizontal scroll bar.

And then if I get on the page, I can see that contents actually cut off on the side.

And so if I was a low vision users, and I seemed in, I would actually be.

I have to scroll over horizontally, in order to access all the content, or I may just miss it completely.

However, if I were to inspect the page.

And if I were to put it in response to view so there's this option here which allows you to be able to see it, how it would look on a mobile.

And then if I were to refresh it.

We can see here that actually the content has three flows, and it is now all in single column when I'm on a mobile.

So, here.

It has got a responsive layout, and when I'm on a mobile. I can see that responsive layout. However, if I were a low vision user and I wanted to zoom in.

I'm actually I don't get the same experience as a user on a mobile, because the responsive design has been disabled on desktop. So it's really important to make sure that your responsive design is not only benefiting users on mobile hub, or they're benefiting

low vision users on desktop.

So I'll just get back to my presentation.

One of the other requirements, which responsive design looks at is orientation. So, this can.

And this doesn't for orientation the requirement for this is I works in both portrait and landscape mode. And so, as we can see, this would just be a kind of different layout so responsive design would be beneficial for this as well.

And it's important to you don't want to assume that your user can rotate your device because you're a user might have a mobile phone mounted landscape for example, when.

So you don't want to restrict your view to portray.

You want to give you a user's choice, and the ability to decide how they wish to view your information.

And so, with the responsive design principles but also apply to this

simile there's also the resize tax requirements. So this says that except for captions and images of text, text can be resized without assistive technology, up to 200%, without loss of content or functionality.

So, and we might have noticed as now when we were looking at re flow, we actually zoomed into 400%. So, one of the requirements is that you could actually zoom in up to 200% and still be able to read it so we'd use the same method of zooming and using

control and plus.

But you might also want to change your default browser text size, and instead of zooming in, you might have the content increasing by default.

But this this requirement benefits can benefit elderly users as well as low vision users.

It doesn't apply to images of text or captions embedded in video frames. And the main thing to be aware of is it's important to ensure your fonts are set in scalable units.

So, not in pixels.

And it's also important to make sure that contain a holding the text does not use pixels, because you want to make sure that the text can scale.

So what I mean by that is really look at these two examples here, the one, the two on the left or two buttons which are the normal size, and then the one on the right is when the text has been resized, so we can see that the text itself is not set in

pixels because it can scale.

When the user changes it. However, the one on the right the container itself has not been set to resize sorry it's not reset in units that will allow it to scale.

So this means that even though the text, resize is, and this would still fail because it's it the content gets clipped when it reads sizes. So, good thing to be aware of.

And this also tech spacing eligibility. So, it's important this is really important for users who might have cognitive disabilities, learning disabilities.

And it can help low vision users who might struggle to perceive information.

And so the requirement is that users can change their text size settings, rather than the text size itself needs to be this all the time. So the main thing to be aware of is that, Make sure all your content can be customized.

If the user chooses to customize it.

And so, lines of text are close together can be quite hard to read, and the additional space between lines can make it a lot easier.

So users should be able to change their tech space and preferences with no loss of content or functionality.

And so I'll just show you this example.

So I look at if I look at this example, I'm using a text spacing bookmark but there are other tools you can use but this is the one that I've currently got installed.

And if I press it.

Nothing's changed. So what this means is that, I'd expect the tech space between these words to get bigger.

And again, this is what you'd want your content to be in relative units to ensure that that can happen so there's a space for it to grow.

And, and when you're designing content, it's really important to think about not only how your content might look on one line but how it might look on two lines when a user has changed, text size for example.

So you would want to make sure that they can customize their content.

And also the layout of the page kinda effects, understanding so you want to ensure that you've got a good clean layout. And this can help reduce distractions.

And so, design can help draw attention. So this can be really powerful tool, and how its organized can help tell the user, how you flow between

guide them through your content.

So you can separate content with margins and padding, and you can make it easier, it could be easier to understand the first space between so this can make texts easier to read.

And think about how your paragraphs are laid out, and they could be concise and short make them clearer. And so this can be really beneficial for users with cognitive disabilities.

So, and think about long lines of text. This can be a problem for users' you might have a reading disabilities such as dyslexia or vision disability.

So, generally, a maximum of 80 characters is considered easier to follow.

But some disabilities may benefit from Texas even shorter than that.

You also want to avoid justified text, because this can create what's known as rivers.

And this can be quite distracting for users with cognitive disabilities.

Also you want to consider what font choices, and you have, so consider one is most readable.

Sans Serif answer for both considered acceptable, and consider when you use sans serif as you can see by my example, and ln capital, I can be difficult to know the difference between however generally in contact so it can be quite, it's usually quite

Sans Serif can be preferred by some users, because it's cleaner and more evenly spaced.

to the user which one is, and fonts that mimic handwriting can be quite difficult to read.

But it depends on your specific user group, what might be more appropriate.

And finally, navigating so when you have your navigation, ensure that it's in the same relative order on each page, and also to ensure that your components that have the same functionality within a set of pages can be identified consistently.

So an example of this could be a search icon, for example, so it's important not to use if you have a search icon, that is, well, I should say magnifying glass icon.

If you use it in one place as a search, then you should use it as a search across your entire site, and not as a for example have it as a magnifying glass in another place.

And so that's a great thing to be aware of.

And so to summarize, flexible layout shouldn't require a lot of extra work if you're already building your site's responsibly.

And, and it should be built into the process already when you're building and designing responsive websites, and it's important not to restrict your users, and allow them to customize your content, and you can do this by using relative units.

So we're just gonna have no have a short break. For questions if anyone's got any questions, please feel free to put them in the q amp a panel.

So I can see some questions I think once in relation to one that he was answered earlier so.

And I'll leave her to answer that one.

And there's another one that's are there instances of conflicting accessibility.

This is a really good question actually because. So, and with the Web Content Accessibility Guidelines, these are kind of technical requirements that should be met for technical compliance.

However, you can also there is big overlap between accessibility and usability. So, when you do things like usability testing for example you might have come across something where your users might be telling you one thing, but that might be conflicting

with something that might be an accessibility requirement. And, But generally, they there is a quite a lot of overlap between them.

And I can't think of any instances off the top my head, but they can be sometimes.

Oh, now go on to the next section, but please feel free to ask any questions throughout.

So, and I'm going to talk about contrast and use of colour.

Oh, before I go into that I can just see there's another question that's just come in.

So we find that designing for our users that have dyslexia that there is some conflict. Yeah, this is.

That's a yeah dyslexia is an interesting one. So, and you might have some of the AAA requirements are related to things like content. So, how you might want to write content, and I definitely have a look at the AAA requirements and WCG, and especially

a disability, such as dyslexia, because this can it can give advice on kind of how to best structure like write your content. And so that's definitely good, have a look at that and it might give you some tips.

So, contrast on use of colour.

So, contrast and colour are us are really vital for accessibility and, and it's a particularly big part of accessibility for designers. So one thing to definitely stay, is that colour is not discouraged.

It's just about kind of thinking about what colours you use.

So there are types of visual impairment that can be affected by this, so this could be users who may.

He may be blind or may have low vision or colour deficiency or it could be a user in a certain environment so they might be outside in bright sunlight, where colour contrast would be really beneficial.

And it's also important to note that there are actually three times more people with low vision than with total blindness so colour contrast is really important for that user group for certain users as well.

Bright lights can be really painful. So example would be an white backgrounds.

And like high contrast text. So, users with cognitive disabilities may want to change the background to suit them, and it's going to help focus on text better and users may also want to modify the colours in the operating system, or in the browser.

So first look at text contrast text and images of text must have contrast ratio of at least 4.5 to one, a large text message or contrast ratio of at least 321.

There are some exemptions there so if it's part of an disabled component. So if it's inactive. If it's purely decorative, or if it's intended to be hidden from users, or if it's part of something like a logo, but crucially, it's important to note that

brand colours are not exempt. So, if you have an inaccessible colour palette. At the moment, and they would need to be adjusted in order to be made accessible.

And when we think about text content, we want to say we want to look at the meaningful content and the meaningful tax so this would be things like headings paragraph text, and anything that's meaningful that helps the user perceive the content.

So this can be really good to test it a design stage so when you start doing prototypes or designs. This can be checked before it goes live and inconsistent background colours can cause contrast issues so the text contrast does apply against any background

so you might have a solid colour. And you might have an image pattern.

A video, but the text contrast does apply against all of them.

And it also could change so you might have.

You might have parallax scrolling which is where kind of one layer, move slightly slower than the other.

and in this situation the background might change as a user scrolls but the colour contrast would still be required to be met in those situations.

Patent backgrounds or pictures can also be distracting for users with cognitive disabilities.

And regardless the colour contrast minimum requirements, applying all these situations.

There's also a non-text contrast requirement, which was brought in, in the 2.1 version of the guidelines.

And so, this is that UI and graphical objects mostly meet at least a three to one ratio. So this applies to things like selection states to think about tops, and having an active top, and it applies to custom focus indicator so we'll talk more about that

in a bit.

Advice of boundaries and backgrounds. So, the border of your button, as well as the things like background colours depending on the situation of what your buttons designers on it applies to graphs as well so that content in your graph and icons as

well.

It doesn't apply to inactive components. So again, if you had a disabled buttoned like in a stable style that I use a couldn't interact with, then the colour contrast requirements don't apply to that, and it refers to adjacent colours, not different states.

And there are certain things that are exempt so flags are exempt photographs there's no requirement for photographs to meet this requirement and things were colour change would affect the meaning like heat maps with this would be exempt and brand logos

are also exempt.

So we're not gonna have another poll, would this would this search input and button. Fail non text contrast.

And so the question is, would this fail non text contrast.

The options are the input and button would fail, the input would fail.

The button would fail.

The bus input and bottom would pass, or, I don't know.

I'll give you a few seconds for this one.

seconds.

Great. Yeah. So, in this example, the button, and the input would both pass. And so, the majority of you have spotted that one.

So the reason for this is when a boundary distinguishes our control. And so in this example with the input we've got a border - border must meet the colour contrast requirements against the background.

And so, this is even though we've got a white background on the input. We've got black border and that white border contrast against the white background.

And so, crucially it's thinking about what colours help the user to identify that that is actually a control.

And so the thing that helps us identify in this example is the border around the input, as well as the button has a blue contrast against the white.

It can be a bit tricky though so in this example that's just popped up, and we have a white input migrants, a blue background. However, there is a grey border around the white input.

And if we think about the same principles of the one which just looked at that has a black border against a white background. This you think this grey border would need to contrast with the blue.

However, the main thing that the user uses to identify the component is the white background so it would be the white against blue that should meet the requirements.

And this also applies to state so if we look at this default and radio button.

This would need to meet colour contrast or comments, against the white background, but then when the state comes in the state would also need to meet the colour contrast requirements against the background.

So think about what is required to understand the meaning of that input.

And so the key thing is what is required to understand or identify a particular object. So, it applies to both UI components, as you mentioned, so things like radio buttons on inputs, but it also applies to graphical objects such as and icons and.

So, these would all say if the part of the graphic is required to understand the content, then it would need to be a three to one ratio.

And then if you look at the example at the bottom, we've actually got text with an icon next to it.

However, without the icon, the user may not know that that input is a drop down so that icon is required for understanding so that would need to meet colour contrast requirements.

And we did have a question come in ahead of the webinar, and I'm just trying to think of the wording of it, it has to do with dyslexia, and the icons needing to meet colour contrast requirements.

If you asked it please feel free to put in the q and a, but I think the question was, the icon, and does the icon need to meet colour contrast requirements, if it's next to text.

Well in that situation if you had an icon with tax next to it, then the text is enough for the user to know what the icon is about what in most situations it depends on what the icon is.

But if we look at the social media icons on the screen at the moment.

Without text, the user wouldn't know what those, and as they are standalone icons on the user needs to know what the icon is to be able to understand what our controllers so that that would need to meet colour contrast requirements.

The colour contrast calm is also expand to custom focus indication. And so, you may want to use the focus style to add specific focus styles. So, when if you choose to use the default focus indicator, this is actually exempt from colour contrast requirements,

but you can change the focus indicator to be a much more high contrast one.

And so you can provide alternative styles. And this can be really beneficial for the user experience. And if you do this then you do need to make sure that it meets the free to one colour contrast requirements.

And so that is important to be aware of. If you choose to have a high contrast indicator.

And there are plenty of tools you can use to check colour contrast, and they can be tech check during the design stage.

The one we use is colour contrast analyser, and this allows you to point and click to check what colour dropper is. So the colour contrast is using a colour dropper.

And it will give you a 2.1 compliant summary at the bottom which will tell you. Does it meet 1.31 point 4.3 contrast.

Does it mean 1.4 point six contrast which is AAA, but it gives you details like that which can be really helpful as also two links at the bottom here which colour safe and contrast Finder.

So colour safe can be useful if you're a designer who's looking for safe colour palettes to use and contrast finder can be good if you have.

If you're looking for a contrast, a good contrast against that it's close to specific proposed colours. And so a good example of this might be you might have one certain brand colour that you want to have, but then you're looking for good and good contrast

with that specific brand colour.

So they're worth having to look at,

use of colour is also really important so this relates.

This is really important for people with colour blindness or with other visual impairments, and for users that may find it difficult to differentiate between certain colours.

So if you have information which is only conveyed through colour alone. And then someone who is colour-blind or has low vision may not be aware of this information.

So it's important not to use colour alone to convey information or indicate response or prompt a response or distinguish a visual element.

So commonly glimpses of this might be putting required for giving required fields, a red boundary when there's an error or having a submit Form button that's green, but no other indication that that's what it is.

So if you look at the graph on the right, without the background patterns, it wouldn't be clear that only be colour alone to kind of identify what those lines were.

However, the background patterns help add a secondary level, which helps the user differentiate between the different lines, and it doesn't rely on colour alone.

So if you look at this example, and the colour has been used to highlight what is currently active so if we look at the example on the left, the Explorer has been given a different colour to the safe and the login to show that that's the one that's active.

However, if we were to remove the colour, and see it in grayscale, we can see that it's, we can't really see a differentiation between the three different ones and it may not be clear which one is currently active to the user.

And so we're not gonna have another poll and. Is this an acceptable use of colour to convey that this is an interactive button.

So, is this an accessible use of colour.

And, yes, it's clear that one is submit and one is cancel. No, it's not clear, or, I don't know.

Give me a few more seconds.

Fantastic yes so the answer is no. This alone would not be clear, and to convey the information.

I'm Sophie look at these two examples. The one on the left. This would, this is actually using colour alone to convey the action. So, the button on the left is red, while the one on the right is green.

However, if you weren't able to differentiate between those two colours, it wouldn't be clear which one was which.

So what we can do is we can use text to also help convey that action. And so if we add the word cancel into the red, then there's more than one method for the user to know what that is, that button is for.

So now we've got another one so this use of colour with links and this often is a question that we get of with this past use of colour. Does anyone want to hazard a guess if this would pass use of colour.

And please feel free to put an answer in the chat.

So, the link is Find out more at the end, which would this past use of colour.

Got one saying I don't think so.

Someone else saying no I don't think it would pass.

Interesting.

Yeah. So, okay, this is and this is a really common question we get about links so this words, the important thing to know is that links must not use colour alone to distinguish from the surrounding text.

So, if we look at this example. Then, we think no this would not pass because it's using colour alone to distinguish from the surrounding text. However, it would pass.

If the link has a three to one contrast with this random text, and also has an additional state on hover or focus. And so, I yes we've got a question, another answer saying depending on the shade of blue.

Yes, and that's a really good point. So, it would definitely depend on the shade of blue. And this particular one, I tested before the session, and it does meet colour contrast.

So, the important thing to test is does this colour here have to find out more, have a three to one contrast ratio against this colour here of the text surrounding it.

And in this case it does, however, that alone would not mean that it would pass the requirement. The next thing is that it would need to have an additional state on hopper or focus.

So, when I hover over it. It has an underlying.

So, this would actually pass the use of colour contrast requirements.

However, even though it does pass the colour contrast requirements, it is highly recommended to have a underlined by default, this is definitely the preferred method, as it makes it very clear to all users, what the that the link is a link.

And so if you think, depending on your use user group, it may be beneficial to have, like, it does make it very clear what is the link.

However, there are other things that would pass this requirement. So, as we saw, if we have an IT underlined on hover or and focus. This would be an option, but it's not usually recommended in the body of text, because it can still be hard to decide to

different differentiate between, we might want to also add a background colour, so this might alongside the underlying, So this might make it slightly easier to see.

And what the content is but it would still be text, which was only colour, to start with, and they were also, to which would say. Another question we get is, what about links in the navigation, do they need to meet the same requirements, because a

link to links with a lot of times, the design doesn't allow for the links to be underlined by default like the top example in navigation.

Well, if it's in a menu system and it style to be a navigation system and it's clear that the link is a link then, and it doesn't need to meet contrast requirements against surrounding textbook as it's clear as a navigation system that that's what it

is.

But as I mentioned, to start with, even though the, these are all options the preferred option is definitely to have links online by default.

It's also important not to provide instructions that rely on just one sentence so we saw earlier that which we talked about one sense in terms of the colour being one sense, and then having a different like background pattern to help communicate, but they're

also it can affect different groups of people in different ways so this is more of a general and other senses one so people who are blind or low vision may struggle to see shape, size or location, people with cognitive disabilities may find it difficult

to understand shape, size, the locations clues.

And people who are deaf or deaf blind may struggle to understand audio clues.

So, if you're a good example is when you might have an online learning platform that has exercises, and at the end of each exercise, you might have a bell chime to say at the end of the exercise however you also want to make sure that there's additional

an additional way to communicate that information. On top of that, so that it's not relying on the user hearing about to know that that's the end of that section.

So, the key thing to remember is use more than one sentence for instructions and avoid destruction.

Avoid instructions that rely on just sound.

So, we're not gonna have another question break if anyone's got any questions.

I'm just gonna have a sip of water.

We've got a question, which is, should the state or state slash colour on hover meet contrast requirements.

That's a very good question.

My initial response is I think it does.

Because it would still be required.

But I'll double check that, and I'll get back to you, maybe, who might be able to have a quick look for you and answer that one so I'll leave that one open.

If he's able to have a look at that one for you.

Doesn't look like we've got any other open questions at the moment.

Oh, we just had one come in so does the focus indicator have to be the same colour across the website.

And so I'm assuming this is waiting to if you have a custom focus indicator.

And, and the answer is no, it doesn't need to be the same colour so and.

A good example is, you might have, like, you might have a yellow bright yellow focus indicator, like the if I get back to the slide.

It's not fair the button I was anticipating so if you look at this example here we've got bright yellow focus indicator. However, if I went, if there was a yellow background.

Then, and there was a link inside that yellow background, then I wouldn't want the focus indicator to be yellow as well, because then it wouldn't be clear on the yellow background, so in that instance, you could change the colour to another high contrast

colour, so that it's clear, what, where the focus indicator is

great. It looks like we've got another one will come in.

Okay, it looks like we've got another one will come in. So for text links, should we use blue for links and purple for visited links.

And so, that is, I guess that’s related to the browser defaults.

And so that I.

There isn't a requirement for links and visited links to be specific colours I don't think it's more that those links should be a free one contrast ratio against the surrounding text, if it's within a body of text.

And I don't think there's a requirement for visited links to be specifically, again, I'll have to double check that but I don't think there is specifically requirement for these two links.

I think they can just be the colour.

But again, it could depend on your user group it might be useful to have the visit links as different colour and you can use CSS to change it.

But I guess the main overarching question you got is do they need to be blue and purple, and I don't think they do need to be blue, and blue and purple specifically.

So go into next section now. And

so we're now going to talk about non text content.

So you'll remember this criteria from earlier this is to do with things like images and icons, and any non-text content. So it should be presented to the user, it.

Sorry. Hold on tight content is presented to the user has a text alternative that serves an equivalent purpose. And so this is anything that like images, or and decorative sorry icons, or a component that has that needs a label and things like that.

And the most common example of non-text content is images. So we want to make sure that our image has an alternative text to convey to the user what the image is showing.

And there are different requirements so depending on what your images. So you might have a functional image.

So in this example, these icons are actually links, so the requirement for this is, this should describe to the user what the destination is so it wouldn't necessarily describe what the icon of showing but it would describe the destination.

So a good example of this might be your brand logo on your homepage.

Sorry in your header, which leads to your homepage, which is also a link.

So for this, it wouldn't be, you wouldn't want to describe what the image is showing you'd want to describe what the destination was for the user. So it'd be your site, homepage.

And, for example.

Another example is decorative images so images are often used to add visual interest, but they don't actually convey additional information so in this example we've got a title and a description, and the images there just to help add additional interest

and this is really common with things like cards. And so for this, we'd want our image to be decorative, and to set decorative images, we'd want to have empty alternative text.

So it's key to actually, you still want to have alternative text but it needs to be empty. And what this does is when a screen reader comes across it, and it will skip it and ignore it.

If you didn't have the alt attribute at all. A lot of screen readers would actually read out the file path. And that will be quite confusing for screen media user.

And finally, you might have informative, or complex images. So, this can, this can be an image which actually represents a lot of information, and a design consideration for this would be kind of where would your texts authentic be in this situation.

So, this image that you have the information that's being presented in visually in this image. You also want to make sure it's available in text. So, it's things like where's the stage in this example, and what are the general admission areas.

So think about what that image would be what that image is representing and provide an alternative for that and it might be in an accordion underneath it, it might just be text underneath it, or it could even be a completely separate page.

And there's also a requirement for images with text so they should be avoided, unless it can't be avoided for presentation purposes. So what is meant by this is that if your image contains takes the set text should be presented as HTML, not as part of

your image.

image. There are exemptions so a common exemption is logos, because the text should be part of that.

But if the technology allows them to text should be presented in HTML.

This is because you want users to be able to customize the text so some, as we mentioned earlier about kind of text spacing and things like that, and resize text, a user may choose to zoom in and the text would scale accordingly.

However, if you're if the text was embedded in the image, and you may not be able to zoom in, or if you could zoom in, then the text would be pixelated.

And additionally, they are using may want to adjust their fonts so they may have chosen to change the fonts and customize it to their requirements and, but if it's part of the image then they wouldn't be able to customize this, it would have to be part

of the HTML.

And, as previously mentioned it would also need to meet colour contrast requirements.

And there's also multimedia as well. So we want to provide access to comparable information via multiple formats with multimedia, and there are different types of content, and how people access it, so it can be heavily dependent on what your image, sorry,

what your audio or video is, which the requirement what the requirements are. So, some will require captions some will require transcripts and others will require an audio description.

W three see how this really good resource which are they may now.

So this is the WCC resource is making audio and video meter accessible.

As a really good resource to kind of help guide you through what you actually need for your specific image that specific video sorry. And so in certain situations.

You may need to provide audio description, and others you may need to provide transcripts.

But generally, any of them need, you do need captions.

And there are some.

Generally, you can see, like, you can see the captions on the bottom of my screen at the moment, like for live content there awesome available. And for things like YouTube that are automated captions as well.

But it very heavily dependent on your specific requirements for your video.

So, to summarize non text content, and things, think about, make sure your content has an has a text alternative.

And when adding alternative tax make sure it's appropriate for your image being used, I realized I forgot to demo the, the tree so this is another really good resource as well which is the decision tree for from web accessibility tutorials.

So, if you're not sure what alternative text give your image. This is a really good place to go ask you a question so does the image contain text.

No. Okay, go to the next section and then it takes you through it and it will tell you what you should do. And also provide a really good resource on it.

So this is a really, really helpful place to go.

So now going to talk about visual afford it says

an avoidance is, and design provides a clue about what something is and how to interact with it. And you also want to make sure these performances are reflected in your mark-up.

So, with additional interface, and you want it to be as intuitive for your users possible, and you want to understand how they interact, that they want to be able to understand how they can interrupt the content.

So don't assume everyone can see or understand your visual clues and make sure that any visual style is communicated through the code as well so that assistive technologies can also terminate.

So we look at this example on the right, we've got a request a book button, which is especially style to look like a button, it's become a very common clear UI element visually, but you also want to make sure this is reflected in the market by using something

like a button element.

And then sometimes you might come across things like this where we can see the show all 17 communities his style to look like a button. However, if you look at the butter bedroom one, and the common spaces and sections at the top, they also have a similar

rounded corners effects that a button might have. So a user may and may think that those are buttons and try and interact with them.

So visually, you want to make sure that anything like a button is clear to the user and that they don't have to use trial and error to work out what might be, and what might be interactive and what might not be.

You also want to make sure your behaviours and states are clear programmatically, as well as visually and, and you also want to make sure colour contrast requirements as well.

So think about a thing like a top and want to make sure that it's the focus. They have the state is clear. Select the active state so we want to make sure that the active state is clear to all users.

And we want this to be communicated programmatically as well so it's communicated to a screen reader user.

Similarly with an accordion, when it's expanded or collapsed. We want that to be clear visually as well as programmatically.

And then we have something like disabled or Harvard or focus states as well. So, and you want to think about if it's disabled.

Is it clear visually as well as programmatically. And if it's if you hover over it or focus on it, is that clear officially in pragmatically like where they're at in the content.

And so these are really important. And it's also era states as well so is, if there is an error, is that clear visually as well as programmatically.

So you want to make sure these are all documented. So it's, there's a clear, clear information about what the visual focused states are the visual hover states disabled states as well as how that should be communicated and programmatically.

Sometimes I'm so disable sites for example if we look at this example, we have a request now button. But we also have it scheduled for later bottom.

But visually, it's using a similar style that you might expect for it to be associated with an inactive or disabled state. So again, they're user might use trial and error to try and communicate to try and work out if this is actually something they can

interact with.

So it's important to make sure that it's clear to the user, what is and what isn't in what they can interact with.

So we now have another poll. And so in this example, what is clickable.

So what is clickable in this example.

And is it the show more availability button.

The show more availability button and the whole section about that.

The show more availability button on the title today.

The show more availability button and the time or none of the above.

Skippy a few more seconds.

So we had more of a range for this one, and yes so the answer is show more availability button and the time, 11 o'clock pm BST.

So, and a user may when they come across this design, they may they may think that the whole area above is clickable because it's got the same rounded corners, and they may not be aware that 11pm is clickable because it's, it may not be visually clear

to them.

But it's important to think about kind of what you want us to interact with, as well as ensuring that's communicated programmatically as well.

icons are also important. So, an icon should be consistent intuitive unusable and they're commonly used to help enhance meaning and However, when you see an icon for the first time, it might not be initially clear what the icon is for and text can help

increase understanding for all users.

So, look at the example on the right, with the Explore saved and login. If that takes wasn't there, it might not be clear what those icons are for. However, with the Twitter Instagram.

Instagram, Twitter, LinkedIn, Facebook, and the bookmark button. These are more common to know what they are without text.

But icons can help reinforce information I can be really good for users with cognitive disabilities, help not only with the text but also reinforce it, and to help with understanding.

There are also an icon which have become commonplace so these are known as universal icons and a really good example of this is the search icon. So, and this has been is commonly used and text would still help reinforce this information.

And, but it's kind of visually used a lot and users have come to understand that this does mean search and. However, if you do use an icon alone is still really important to have alternative text for it because I assistive technologies or may not be able

to see it visually.

It's also, I think about what your design is not saying as well. So in this example on the right, what would you see me, what would a screen me to use it here first.

And what does the UK imply. So, visually, it might be clear that the UK is some sort of category or a sub, sub attack, for example, but it that might not be clear to a screaming user because the design is helps provide us with that information.

And so think about providing hidden tax to help add context screen with user. So this could be simply hidden text reading category, which would then read category UK, for example.

And so this can really help aid understanding of what the content is.

And so to summarize performances.

Think about if it looks like a button, it should interact with one like one and behave like one.

When using icons, ensure that the meaning is clear, and also provide alternative text or provide additional visual text and think about the component states that you have so focused Harvard active and disabled states as well as expanded and other states

like that.

And so not gonna have a short question break. I'm a little aware of the time, but I think we have some questions.

I think its relation to a question, who's been responding to.

We've got another one. So,

can I use a custom play or pause button or does it have to be a native one built into say YouTube.

And so I guess this relates to the multimedia.

And so, yeah, I mean we talked about more about this in a minute actually and regarding moving content but if you do have a, and you might want to design a custom pause or play button, which might be more appropriate for your design, and that is that

is allowed, that is acceptable but enjoy it meets colour contrast climates is Martin was a button, and it's clear to users. And so you don't have to use the native one built into YouTube, if you have an alternative.

I'll now move on to the next section.

Oh sorry, I can just say this to questions come in.

I've had an issue with clients not wanting an external link icon. Is it needed a standard, if the links open in a new window tab or website.

This is a really good question. Thanks for asking this one so.

And I see we mean if you have like, say you're on a website it said BBC opens a new window, and it was an icon.

And there's like visually hidden text light as well.

So, it's not a requirement at double a level that I think it is a requirement at triple A level but a double A level, it's considered best practice. And so it is considered beneficial to users to have an external link icon telling news, they're going

to and open a new window, as well as having texts that reads opening a new window because this can help provide users with context about where that link is going.

Another question is If the button is an inactive button is this button needed to meet contrast to meet to meet the colour contrast testing and.

Yes. Oh no, sorry. If the button is inactive. So if the button is inactive, it doesn't need to meet colour contrast requirements. And because it's, it would be a disabled button.

So in this instance, you need to just make sure that it's clear to you, just programmatically as well so make sure you have a disabled attribute on it to tell the user programmatically.

If there is room user. And that's that button is also disabled.

But, visually with the colour contrast requirements in active button inactive controls are exempt.

Ok so now for the final section which is movement and interactive content. And so moving objects moving objects can be really distracting and can affect reading and concentration levels.

And so we're going to look at some of the key things to think about for them.

And so, these, these are some WCG requirements, which relates, and these were added in in 2.1, which relates specifically to interaction. And as a designer it's really good to consider them before, and maybe inadvertently creating barriers for users.

So the first one is pointed gestures, so important not to rely on gesture such as swiping or pinch zoom and provide button alternatives as well. So a good example of this is you might have a carousel on mobile, and if you require a swipe.

It's also important to provide a button as well to provide an alternative to the user.

Points cancellation so you don't want anything to trick on the event you want to wait for the event so you don't want to use that to be on a mobile device and then go to touch a button and then the second they move on to it accidentally activate something

you want to wait for them to lift their finger as well. So that's the activation event.

And you also don't want to have any single alphanumeric or punctuation shortcuts. And so, screaming users, for example, when you have a screen reader turn on, you can use the latter hate to jump through headings on most common and popular screen readers.

But if you were to say, and overwrite that, and have the letter H as a shortcut then that would actually cause a barrier for some users or they'd be used to using it for headings.

And so it's really important not to use single parent key shortcuts.

And finally emotional situation so you don't want any functionality that can only be accessed promotion.

So, this would be an motion of your device or gestures picked up by your camera because someone who might have a motor disabilities such as tremors may accidentally trigger, or it may not be possible if they've announced their device.

So you do want to ensure that users can disable it. even if there are alternatives to it as well.

And so we've movement there are two requirements applied to two different categories. So, one of them is automatically moving blinking or scrolling content so if we think about videos animations or games, and they should, there should be a way to pause

stop or hide them. But this only applies if the content last more than five seconds.

Simply, and the other category is automatically updating content so this might be news or sports results. And this can be poor stopped hidden or customized by the user.

and there's no five second time limit for that one.

So, in both categories, you want to have a way to pause stop or hide it.

And if the movement is essential. And so it could be a page loader, then this would be exempt.

So, some common examples of where you might have moving or content is a background video. And so this has become very popular because they're quite visually appealing, and they can enhance the page, but they can also be very distracting and frustrating

for users.

So you want to make sure that it is preferred not to have them auto playing by default.

But it's essential to have a way to pause it or stop.

And to have that in a place where it's easy to access.

And so you also want to make sure that your background in videos don't contain any important information. So, and they should only be background decorative content.

It should if it's important information it needs to be fully accessible, and so have captions and have all the controls with it.

So bear that in mind if you use a background video.

And, as you said, ideally, it's best not to have any content autoplay when the page loads.

And, but the main requirement is that they use the composite or stop it if they choose to.

Also if you have text over the video, and as we mentioned earlier, it doesn't need to be colour contrast requirements. So think about the moving content, think about how the content might change colour contrast against the background.

These are all considerations.

Another common example as a carousel.

So it's an example of moving content that sometimes automatically moves, and or sometimes these might be able to choose, press play and automatically move.

And if it's implemented the input incorrectly, it can be very distracting. And so carousel is typically have one slide displayed at a time or maybe multiple, and it moves one at a time, and users can activate next or previous slide, control to move to

the I'm rotating next few.

If it rotates automatically when the page loads.

It can be really difficult, particularly for streaming users because, and it could be that the contents announced each time it changes. And this can make sometimes make a page even impossible for a screen reader user to interact with because they're constantly

being interrupted by this carousel content. And, and it can also be distracting for users were cognitive disabilities. So, and having something constantly moving can be very distracting.

So, you want to ensure that all users can easily control the carousel and are not adversely affected by the slide rotation.

And so things to consider are you want to have buttons going to the next and previous slide, and you want to be able to start and stop it. And, and people with low vision or with a cognitive disability may need more time to read the content and on each

slide. So by being able to pause it, they have more time to read that content and screaming users. And as we said, They can that automatic rotation can be very distracting.

So we've got our final poll. What is this autoplay carousel missing.

So the play, pause.

Play, Pause button on our next previous button. And next previous button or nothing.

Well, two more seconds.

Fantastic. Yeah, so the requirement is that it has a pause button on the next previous button, it does have the.

The pips to allow you to go between each of the slides that isn't a requirement and the requirement is that there was a paper pause button on an X previous button.

But you can also have the slides, if you, if that would be beneficial to your users.

And if you're unsure, a really good place to go with details, all this kind of information is the area offering prices, and I'll make sure the link providing the follow up, but this is a fantastic resource which was how you think like for carousel

what the requirements are like to play, pause button and the next previous. And if you're wondering what the requirements are for taps, it will detail all that, and it's a really good resource to help you know what to include in your design.

And finally, fashion content as well. So people who may be photosensitive can have seizures triggered by repeated flushing. And so the important things to remember.

Avoid fashion content or ensure it does not flash more than three times per second. So examples of this could be strobe effects or explosions, or rapid scene transitions, and red flashing is particularly dangerous.

And so this is really important requirement because it can be very dangerous for some users. And so you want to ensure that, and there isn't any fashion more than three times per second.

And this tool is a really good tool to use to test them.

And finally timing. So, it is important to want to use it about timeouts as well so and.

And you also want to inform them How long before they occur so after 10 minutes of activity for example. And so these timeouts could happen periodically or it could be, if the user hasn't done anything.

Recently, and it could pop up. And they could change the page content so it's really important to alert them.

And you want to give the option to disable the timeout, or extend the current session.

And there are different ways to provide timeout so it could be a pop up like the example on the right, or it could be a checkbox at the start of your form saying provide more time.

And the recommended amount is to give your user, a minimum of 90 seconds to from when the pop up appears to give them the option to extend the time limit.

So summarize and a movement, ensure you're moving blinking or scrolling content can be stopped to pause or hidden if it last more than five seconds, and short updating content can be stopped to pause or hidden.

Ensure updating content can be stopped to pause or hidden. Avoid flashing content or ensure it does not flash more than three times a second and warn users if there's a time limit.

So thank you very much everyone, and it's just a quick recap of what we've covered, and I hope you found it useful, and I hope it's been beneficial to you all and you're all feeling a bit more confident with accessibility for designers, I'd have a final

bit of questions if anyone's got any final questions, and very, I think we're right at the end of the session.

So any questions that you've got that I don't manage to ask all I'm providing the follow up as well.

And also to the questions that were asked before the session. I'll also include them in the follow up as well, and provide answers to them if they weren't already covered in this session.

So we got one question. Underline is good for the hyperlink but some research shows that the underline is not friendly to dyslexic users in our website, there are 25% origins have dyslexia.

how can I balance this.

That's a very interesting question I didn't know that about the underline and, but I'll have a look into that after the session and see if I can find any information on that.

Or, if any, any of my colleagues have any ideas about that one.

But if you have any resources, please feel free to send them over, because we really interesting tablet come.

Okay, um, so I think that's all the questions. And so, again, thank you very much everyone I really hope you enjoyed it and find it useful, and I hope to see you again on some of our other webinars.