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Accessibility Testing: Advocating and Implementing on your teams

Presented by: Janique Morris

Agenda

What we will be covering today

- The importance of having an inclusive application
- The importance of testing for accessibility on your team
- Learn how to get your team to start thinking about accessibility
- How to use accessibility checklist to improve your testing
- Identify ways in which you can automate tests for accessibility

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Hello!

QA Team Manager

Janique Morris

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A little back story about me

Who am I?

How did I fall in love with usability and accessibility? And how did I start advocating for accessibility and usability?

Got my first job in testing, right after university

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Always had a passion for design and wanted to see how I could be a part of making apps inclusive and of high quality

Through empathizing with users on a daily. I started to consider the minority group. And tried to make a difference there through my testing

Created a checklist and did a workshop on usability testing and accessibility testing. To educate others.

Started advocating for accessibility on my client projects and did audits of their applications

Also dabbled in UX design and ensure that accessibility is considered and not an after thought.

I'm very passionate about making sure everyone gets a fair experience

So I fell in love with making sure of that and advocating for it more on teams.

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What is Accessibility testing?

Accessibility testing is the practice of making your web and mobile apps usable to as many people as possible.

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Why implement Accessibility?

1. It's the law
2. It's inclusive and provides equal access to everyone
3. It promotes usability
4. It's the right thing to do

The Web Content Accessibility Guidelines (WCAG), Section 508, and the Americans With Disabilities Act (ADA), protect people with disabilities.

The UK also has the Disability Discrimination Act 1995 which protects persons with disabilities.

Access-

ibility

Designing for accessibility makes sense on more than a legal level; it brings benefits, including these:

Improved SEO from semantic HTML

Opportunities to reach more users on more devices, in more settings/environments

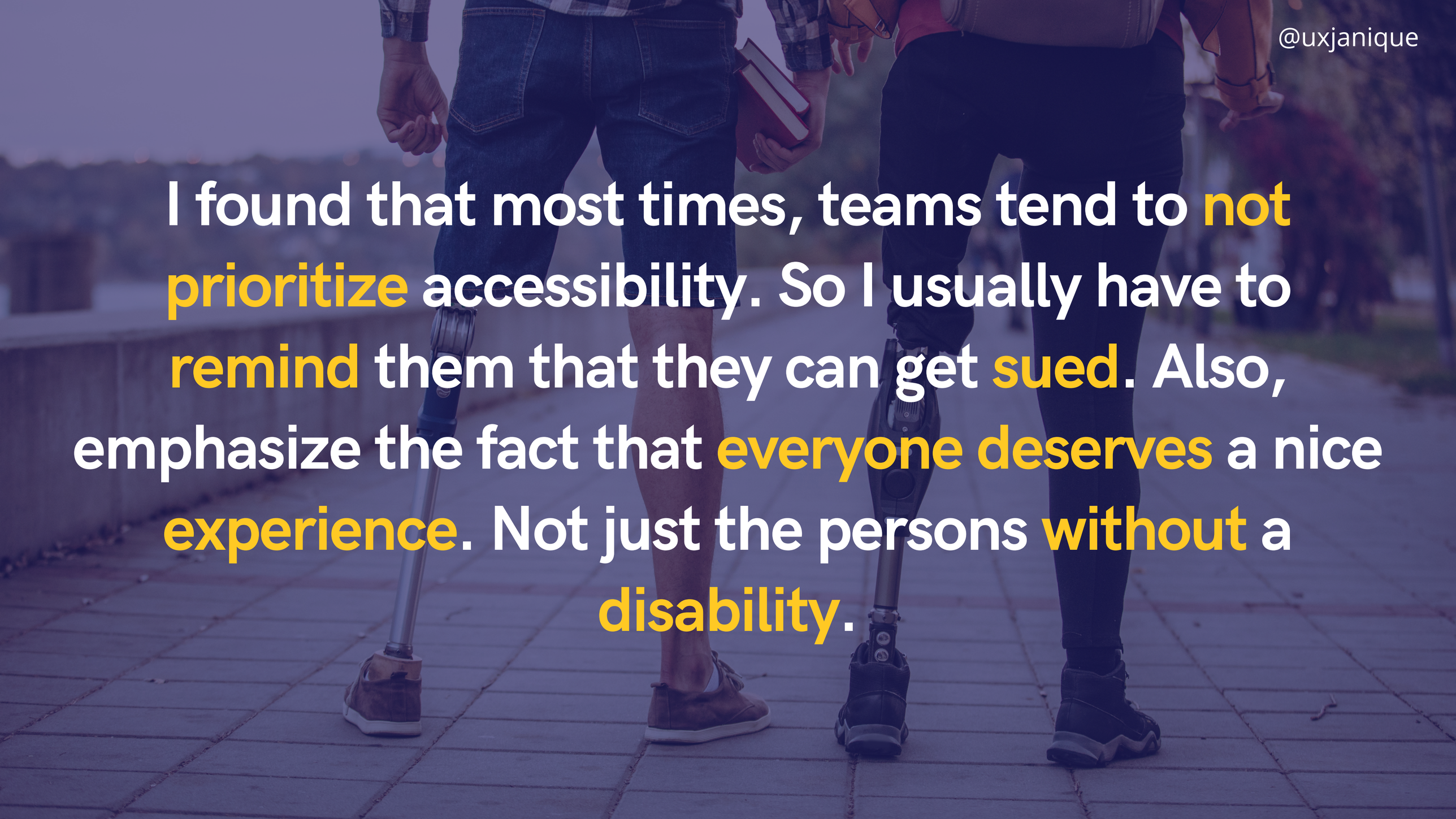
Enhanced public image for your brand/company

Why did I decide to start advocating for accessibility?

I was tired of it being an after thought

Most teams don't account for the different types of users. Hence, their applications aren't accessible

Not many people care enough to advocate for it.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I found that most times, teams tend to not prioritize accessibility. So I usually have to remind them that they can get sued. Also, emphasize the fact that everyone deserves a nice experience. Not just the persons without a disability.

DID YOU KNOW?

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Did you know that accounting for accessibility can improve the overall experience for persons who don't have a disability?

Something to consider, right?

Think about an accessibility feature that has made your life sooooo much better.....

What did you come up with?

How about subtitles?

Or even text to speech

Something to think about...

Often, those of us who are able-bodied take certain features for granted. We utilize these features to enhance our experience without realizing that they are actually accessibility features designed to assist individuals with visual impairments and many other disabilities.

How to get your teams to start thinking about accessibility?

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To get your team to start thinking about accessibility, you have to involve the main stakeholders.

You have to show the product managers and other key stakeholders the importance/benefits of designing, developing, and testing with accessibility in mind.

How did I make my team think about accessibility?

I did an audit of my client's website

This was something I did on my own. Because I was passionate about making an impact and including accessibility on my client project

I formulated my findings into a nice presentation

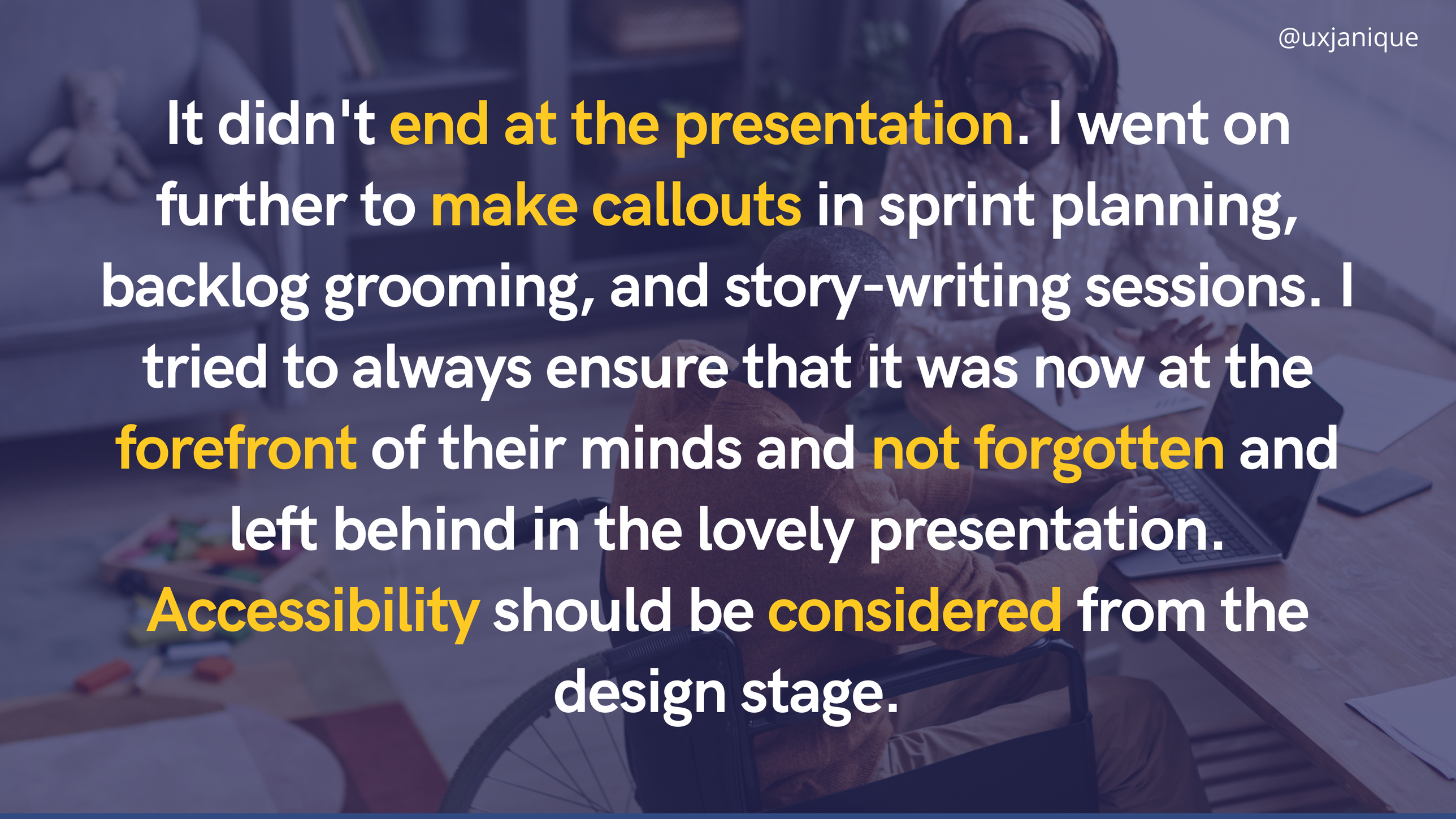
After doing the audit, I then created a nice presentation on where they're lacking in accessibility.

Set up a meeting with the team

In this meeting, we talk about the importance of accessibility. We talk about the laws governing accessibility. We talk about the demographics of the users of the application as well as areas in which we don't have accessibility considered.

Show the tools used for testing and next steps

I then showed the client the tools we can use as a team to test for accessibility. I also showed them a plan for moving forward and considering accessibility.

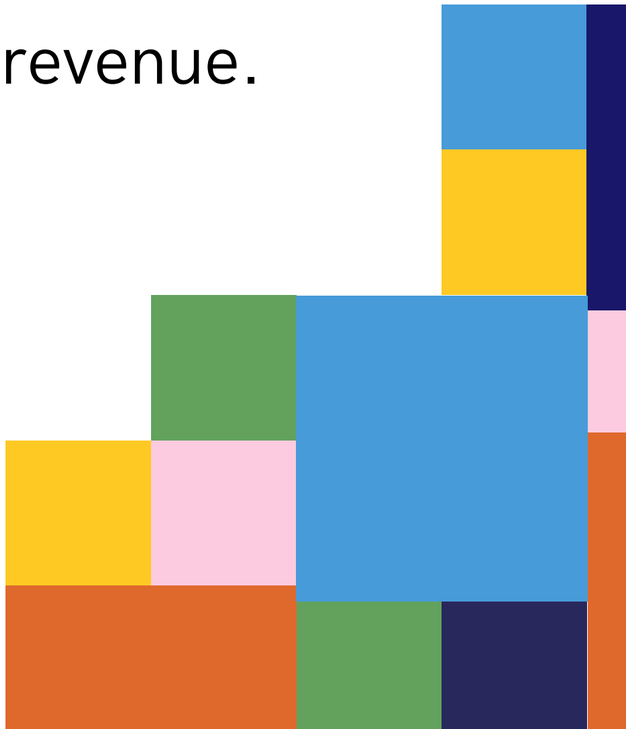


It didn't end at the presentation. I went on further to make callouts in sprint planning, backlog grooming, and story-writing sessions. I tried to always ensure that it was now at the forefront of their minds and not forgotten and left behind in the lovely presentation. Accessibility should be considered from the design stage.

Why do we advocate for accessibility?

Approximately 15% of the world's population suffers from a disability. Therefore if your web application follows the accessibility guidelines, it will ultimately increase your business revenue.

MORE PEOPLE = MORE MONEY



Great User Experience (UX) is...

Usability

+

Graphic design

+

Accessibility

How do you test for accessibility?

Create Accessibility Personas

Use Accessibility Testing plugins/apps

World Wide Web Consortium (W3C) has set the following guidelines for Accessibility testing

P O U R

Perceivable

An interface and information must be presentable for the end-user to perceive. For example – alt text in images.

Operable

Navigation must be accessible and operable throughout the user interface. For example – Keyboard navigation

Understandable

The user interface’s content must be readable using a meaningful statement instead of color-coded instructions.

Robust

The user interface’s content must be robust to be accessible by all users. For example – accessing a URL on different viewports like desktops, mobiles, and tablets.

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Areas to tests for accessibility

A website should be aligned as per the guidelines provided by Web Content Accessibility Guidelines (WCAG). Here are some factors to consider:

Vision impairments

Poor vision, Color blindness, Visual difficulties like visual strobe and flashing effect.

Physical disabilities

Not able to operate mouse or keyboard, slow motor functions.

Hearing disabilities

Deafness, partial hearing.

Reading impairments

Reading difficulties.

Cognitive disabilities

Poor memory and Learning difficulties.

There are three levels of accessibility compliance in the WCAG:

A: Essential

If this isn't met, assistive technology may not be able to read, understand, or fully operate the page or view.

AA: Ideal Support

Required for multiple government and public body websites.

AAA: Specialized Support

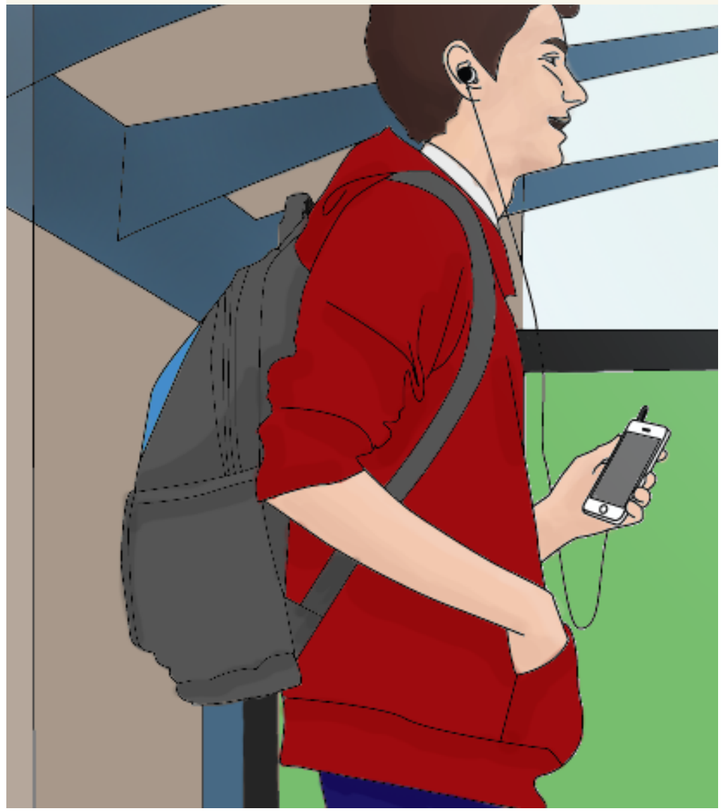
This is typically reserved for parts of websites and web apps that serve a specialized audience.

Creating and Using Accessibility Personas

We should create personas from based on the different factors to consider mentioned previously.

Mark

17 years old



He is a future heavy-duty mechanic with a learning disability that was diagnosed in Grade 8. Mark absorbs information best by hearing it and enjoys making and fixing stuff with his hands. He's in his first semester of college, taking trades courses and loving it. Mark can't wait to complete the foundation courses and move into his first apprenticeship placement. He lives at home with his family; they all share one computer.

Ability: Difficulty absorbing a lot of information when reading

Aptitude: Basic technology user

Attitude: Prefers to do things himself, but can get easily frustrated or impatient, especially with technology

Assistive technology: MP3 player

Accessibility Personas

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Diana

48 years old

Diana is retraining to be a personal coach after she experienced vision loss and was unable to continue working as a bus driver.

She's taking many of her classes online. She lives with her husband.

Ability: Gradual loss of vision; can easily read using a magnifier, but her eyes fatigue quickly

Aptitude: Intermediate technology user

Attitude: Has a routine and likes to stick to it

Assistive technologies:

ZoomText
TextAloud text to speech software

Accessibility Personas

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Jacob

28 years old

Jacob is a fourth-year business administration student who is blind and a bit of a geek.
He can't wait to get his last few classes out of the way so he can start his career. He shares an apartment with his girlfriend.

Ability: Blind since birth

Aptitude: Skilled technology user

Attitude: Digital native, early adopter, persists until he gets it

Assistive technologies:

- Screen reader (JAWS on his laptop, VoiceOver on his iPhone)
- Victor Reader Stream
- Audio recorder (to take notes)
- Refreshable Braille display

Accessibility Personas

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Trish

18 years old

Trish is a college student taking university transfer courses who prefers using print books. An accident left Trish with several physical disabilities. She is 18 years old and lives with her family.

Ability: Suffers from brain damage, paralysis, and has motor issues
Aptitude: Basic computer user, intermediate iPad user
Attitude: Generally dependent on family, so enjoys reading and studying independently

Assistive technologies:
iPad
Motorized wheelchair

Accessibility Personas

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Ann

20 years old

Ann is a chemistry major with ADHD, a learning disability that makes it difficult for her to concentrate. She is 20 years old and hopes to become a pharmacist. Ann lives in a dorm on campus with two other female students.

Ability: ADHD, has difficulty concentrating

Aptitude: Intermediate computer user

Attitude: Struggles at times, but is very appreciative of how much learning software helps her

Assistive technology: Kurzweil learning software (on laptop)

Format preference: Reading and listening at the same time

Accessibility Personas

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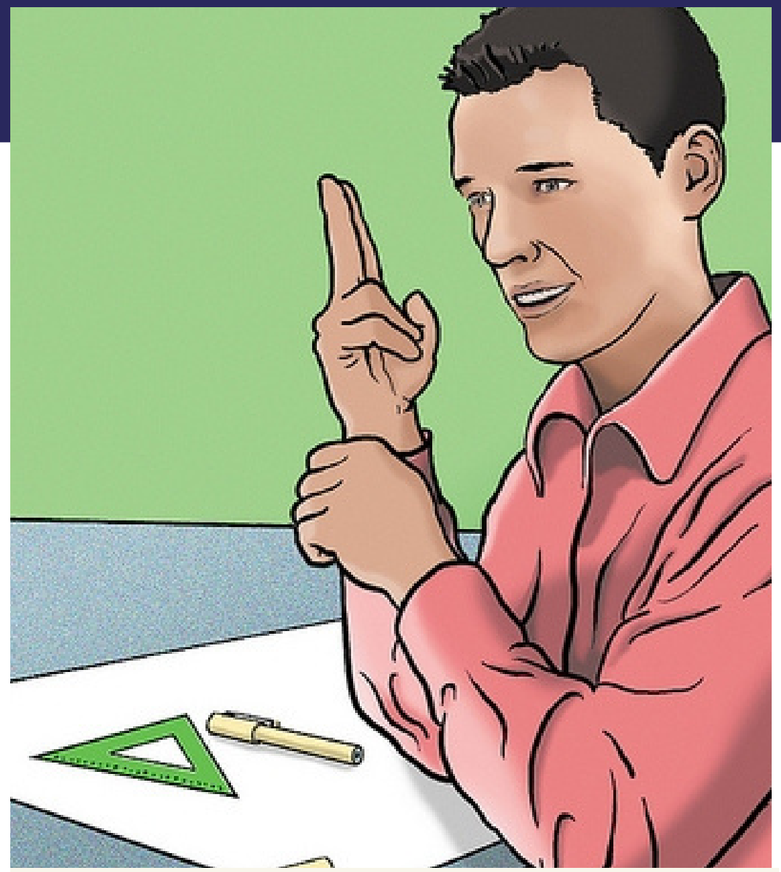

Steven

23 years old

Steven is an English major who is deaf. He is 23 years old and likes the flexibility of taking online classes. He lives by himself.

Ability: Native language is ASL; can speak and read lips

Aptitude: Intermediate technology user

Attitude: Can get annoyed about accessibility, such as lack of captions

Assistive technologies:

- CART (communication access real-time translation) for lectures
- Captions
- Video chat

How to use accessibility personas to test?

Using any of the personas above, use the assistive technologies that each persona might need to use, to test websites/ applications. Empathize with each persona. Put yourself in their shoes. This will help us as a tester to see the user experience, these various personas would get from using our application.

How can we use a checklist to improve our testing?

Using an accessibility checklist to assist with testing is crucial for ensuring that digital products, websites, or applications are inclusive and usable by a wide range of people, including those with disabilities.

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Accessibility Checklist

- Users should be able to website using just the keyboard (Tab, Enter, Space, Up arrow, Down arrow keys)
- Users should be able to see the keyboard focus when navigating on the page
- Tabs are ordered logically to ensure smooth navigation on the entire page.
- All elements on the page can be reached using the keyboard (links, images dropdown menu, buttons etc)
- Keyboard can be used to open and close a dropdown menu
- Keyboard can be used to select an item from a dropdown menu
- Tabs are ordered logically to ensure smooth navigation for forms.

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Accessibility Checklist

- [ ] If a required field in a form is left blank and the user tries to submit it. The keyboard shifts to the field that was left blank to notify the user.
- [ ] Dialog messages can be dismissed with keyboard shortcuts
- [ ] Keyboard focus returns to a logical location when dialog boxes are closed.
- [ ] When dialog boxes or popup are present, the keyboard focus shifts to them
- [ ] Links are descriptive, so when using a screen reader, users can easily determine where they will go even when taken out of context
- [ ] Headings are present to provide a logical structure and indicate the level of importance
- [ ] Different pages can be navigated by a screen reader through the use of headings

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Accessibility Checklist

- [ ] Heading levels are not skipped when using a screen reader
- [ ] Skip navigation links are present
- [ ] Decorative images have a null or blank ALT text
- [ ] All navigation buttons have a descriptive ALT text
- [ ] Multimedia controls have a descriptive ALT text
- [ ] Videos or audio do not start to play automatically, only when triggered by the user
- [ ] Videos have audio description available
- [ ] You hear the expected audio when selecting corresponding controls
- [ ] Form fields have descriptive labels

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Accessibility Checklist

- [ ] Screen reader is able to read descriptive labels
- [ ] The user is able to complete and submit a form using a screen reader
- [ ] Screen reader is able to read error messages and navigates to the area on the form with the error
- [ ] Tables used for purely layout, should not have a header row
- [ ] Tables used for purely layout, allow users to customize and scale the text
- [ ] Tables used for data, must have a header row and /or columns
- [ ] Tables must have a descriptive caption
- [ ] CAPTCHAs are fully accessible through the usage of keyboards

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Accessibility Checklist

- [ ] Audio CAPTCHAs are fully accessible through the usage of screen readers
- [ ] CAPTCHAs are fully accessible through the usage of screen readers
- [ ] Hover state has sufficient contrast or underline
- [ ] Font sizes increases when you zoom in on a page
- [ ] Elements don't become jumbled when the page is zoomed
- [ ] Elements don't become pixelated when the page is zoomed
- [ ] Users can disable the stylesheet and still see information being displayed properly lined up
- [ ] Application supports all operating systems

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Accessibility Checklist

- [ ] Ensure that the contrast for all normal sized text is compliant. Level AA compliance requires a contrast ratio of 4.5:1.
- [ ] Ensure that the contrast for all largely sized text is compliant. Level AA compliance requires a contrast ratio of 3:1.
- [ ] Ensure that the contrast ratio for icons is Level AA compliant. Level AA compliance requires a contrast ratio of 3.0:1.
- [ ] Ensure that the contrast ratio for borders for input elements is Level AA compliant. Level AA compliance requires a contrast ratio of 3.0:1.
- [ ] Ensure that if text and images overlaps, the text is still legible.

TOOLS

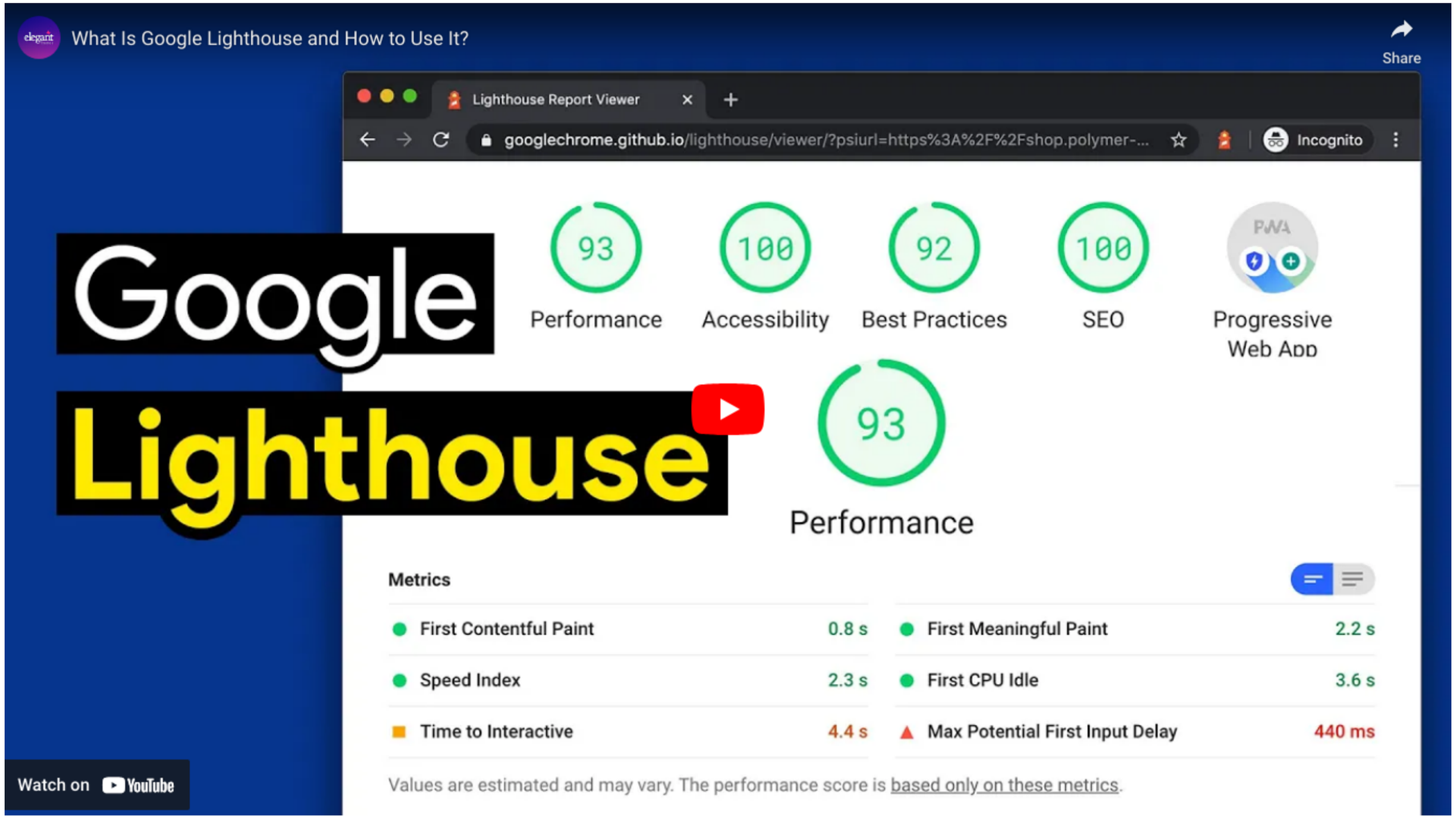
Assessing Website/Application Accessibility: Essential Tools

- WAVE
- aXe
- Google Lighthouse
- TAW

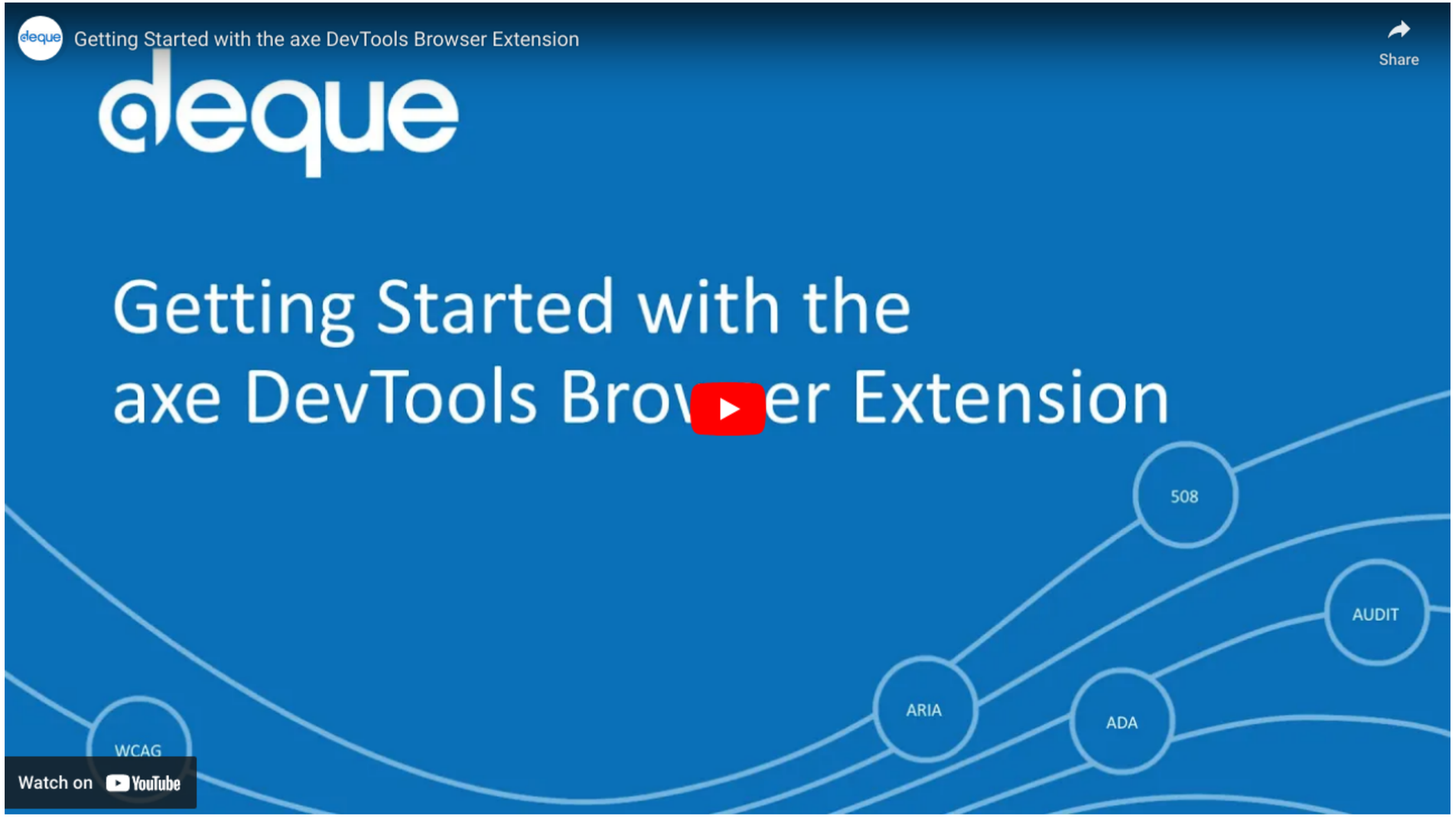
WAVE


Introduction to WAVE
Share
Introduction to
WAVE
web accessibility evaluation tool
Watch on YouTube

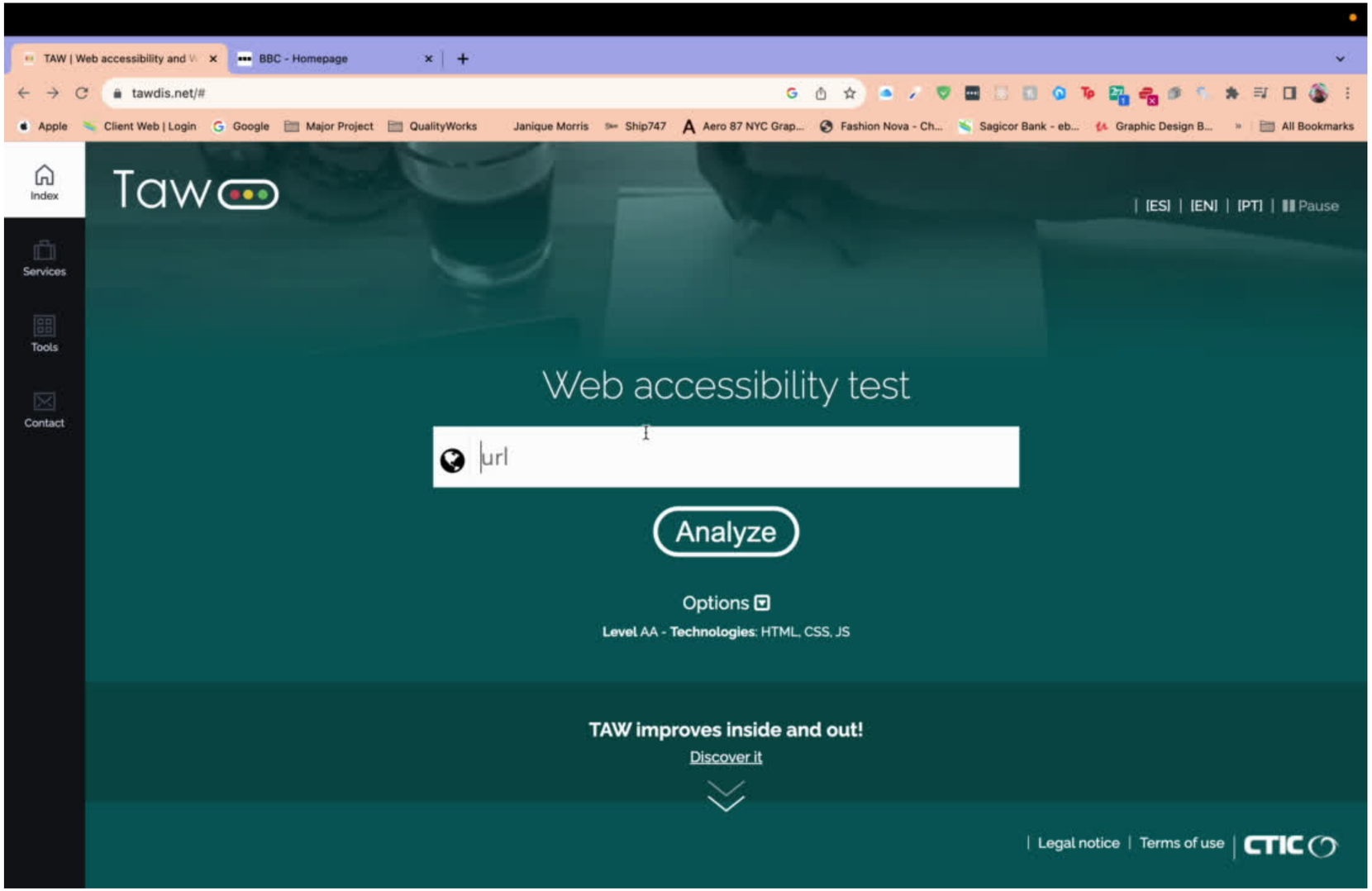
Google Lighthouse



aXe


deque
Getting Started with the axe DevTools Browser Extension
Share
deque
Getting Started with the
axe DevTools Browser Extension
508
AUDIT
ARIA
ADA
WCAG
Watch on YouTube

TAW


TAW | Web accessibility and
BBC - Homepage
tawdis.net/#
Apple
Client Web | Login
Google
Major Project
QualityWorks
Janique Morris
Ship747
Aero 87 NYC Grap...
Fashion Nova - Ch...
Sagicor Bank - eb...
Graphic Design B...
All Bookmarks
Index
Services
Tools
Contact
Taw
[ES] | [EN] | [PT] | Pause
Web accessibility test
url
Analyze
Options
Level AA - Technologies: HTML, CSS, JS
TAW improves inside and out!
Discover it
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How can we automate accessibility?

The Benefits of Automated Accessibility Testing

Automated accessibility testing can speed up your release cycle and pinpoint potential challenges that may affect differently-abled individuals in the early stages.

Accessibility testing can — and should — be automated.

The

shift

Approach to accessibilty automation

What should we automate?

01.

Check for missing tags

Check for missing tags in the code such as **ALT**, and **ARIA.**

02.

Integrate API from existing accessibility tools

Axe has API keys that can be integrated into your codebase to check for key WCAG standards.

03.

Maintenance

Ensure to always maintain your test suite to avoid flakey tests

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Happy advocating, accessibility advocates!

Stay in touch

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