Accessibility in Design Systems: Easy Wins and Lessons Learnt

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Intro

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Riccardo Erra
Senior Frontend Engineer

https://riccardoerra.com

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Management system for hotels and properties as well as their guests

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A11Y-101

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Accessibility is the practice of making your websites usable by as many people as possible

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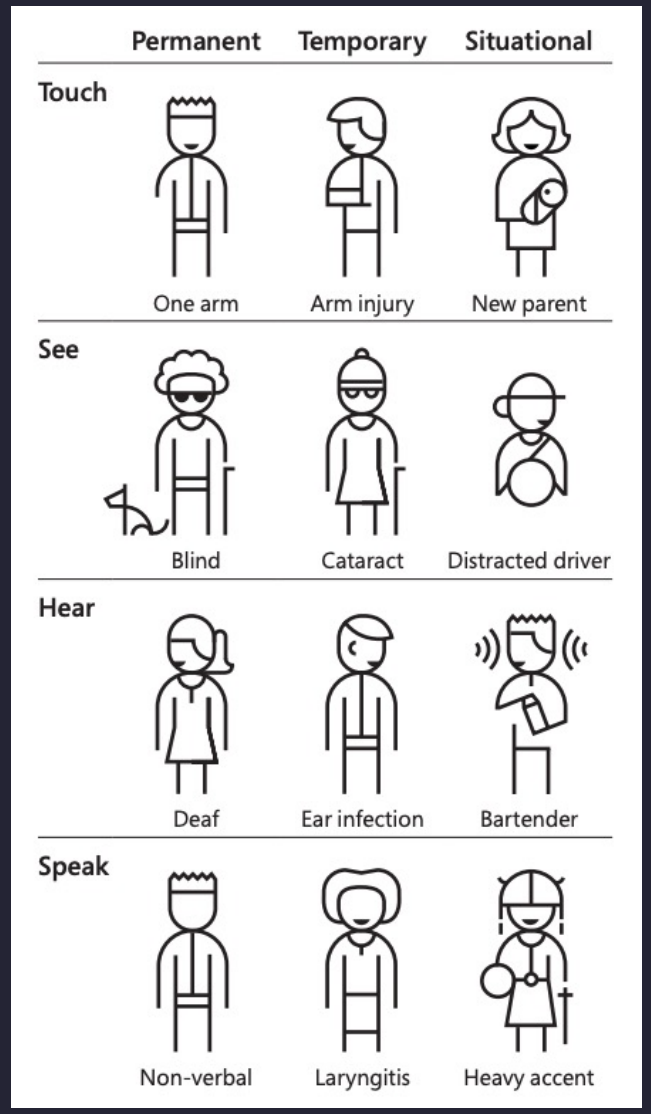
Over 1 billion people currently experience some form of disability



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Businesses lose approximately £2B/m by ignoring the needs of disabled people

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Easy Wins

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Design systems present a unique opportunity to build accessibility and inclusion into your component libraries from the get go

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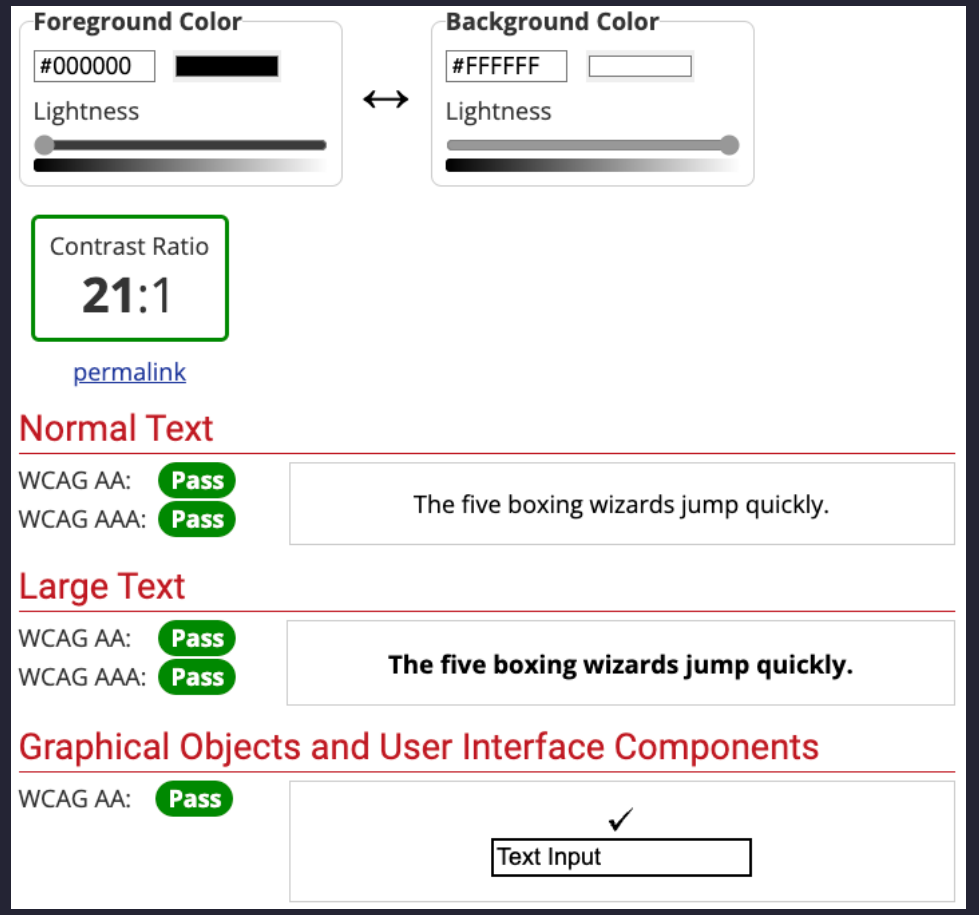
Start with your colours



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Colors Palette Stripe colors Reset Sketch Palette Copy CSS

Stripe colors

	50	100	200	300	400	500	600	700	800	900
Gray	4.61	3.92	2.89	2.11	1.53	1.01	1.51	2.06	2.73	3.36
Blue	4.63	3.98	2.93	2.08	1.55	4.83	1.51	2.02	2.68	3.34
Cyan	4.62	3.98	2.86	2.13	1.51	1.03	1.51	2.03	2.70	3.38
Green	4.65	3.99	2.85	2.11	1.55	1.00	1.52	2.08	2.70	3.36
Yellow	4.57	3.89	2.87	2.06	1.54	1.02	1.51	2.05	2.70	3.35
Orange	4.64	3.90	2.81	2.11	1.54	1.02	1.50	2.07	2.72	3.34
Red	4.60	3.94	2.84	2.00	1.49	1.02	1.52	2.08	2.70	3.35
Purple	4.63	3.94	2.84	2.09	1.52	1.01	1.51	2.07	2.71	3.31
Violet	4.60	3.93	2.84	2.08	1.53	1.02	1.52	2.07	2.73	3.34

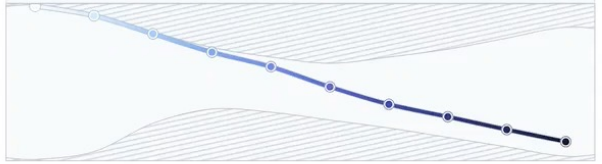
Overlay WCAG contrast

Blue

50 100 200 300 400 500 600 700 800 900

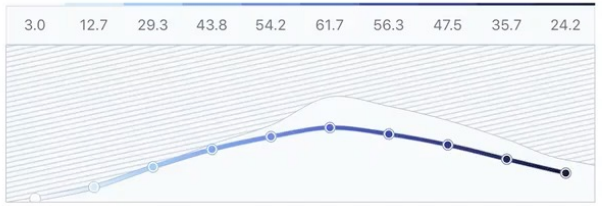
Lightness

98.2 92.2 80.8 69.1 59.9 47.1 36.0 28.1 19.9 12.3



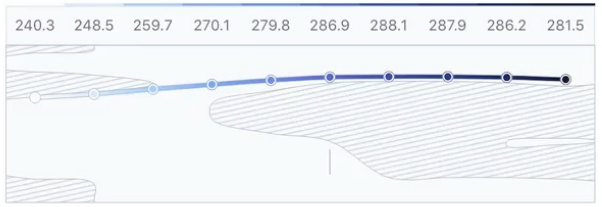
Chroma

3.0 12.7 29.3 43.8 54.2 61.7 56.3 47.5 35.7 24.2



Hue

240.3 248.5 259.7 270.1 279.8 286.9 288.1 287.9 286.2 281.5

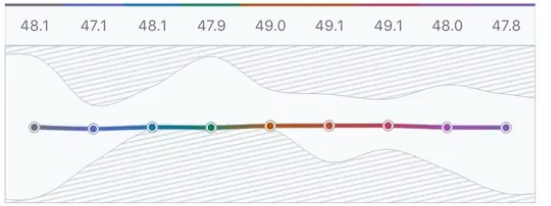


500

Gray Blue Cyan Green Yellow Orange Red Purple Violet

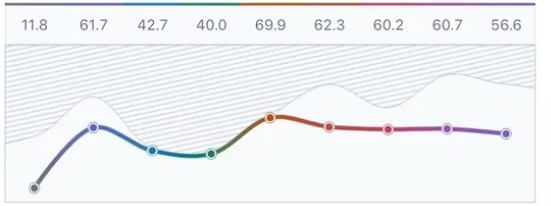
Lightness

48.1 47.1 48.1 47.9 49.0 49.1 49.1 48.0 47.8



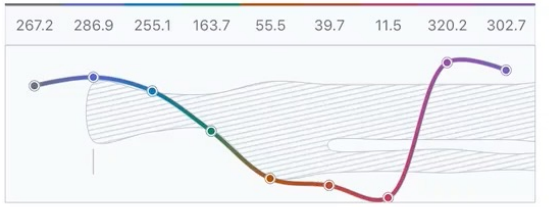
Chroma

11.8 61.7 42.7 40.0 69.9 62.3 60.2 60.7 56.6



Hue

267.2 286.9 255.1 163.7 55.5 39.7 11.5 320.2 302.7



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Web content can be made accessible just by making sure the correct Hypertext Markup Language elements are used

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```
<div id="saveChanges" tabindex="0" role="button" aria-pressed="false">Save</div>

<button type="button" id="saveChanges">Save</button>
```


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Ensure that all content can be accessed with the keyboard alone

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Screen readers enable the independent use of digital devices by those who otherwise would not be able

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Lessons Learnt

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Learn about standards, guidelines and requirements

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GOV.UK Service Manual

Search on GOV.UK

BETA Contact the Service Manual team if you have feedback, questions or suggestions.

Service manual > Accessibility and assisted digital

Accessibility and assisted digital

Understanding WCAG 2.1

Give feedback about this page

From: Accessibility community

Page contents:

- Meeting government accessibility requirements
- WCAG 2.1 design principles
- Applying WCAG 2.1 guidelines
- Further reading
- Related guides

This is an overview of WCAG 2.1 level AA. It does not replace the WCAG 2.1 guidelines, which provide a full explanation of all principles and requirements.

The Web Content Accessibility Guidelines (known as WCAG) are an internationally recognised set of recommendations for improving web accessibility.

They explain how to make digital services, websites and apps accessible to everyone, including users with impairments to their:

- vision - like severely sight impaired (blind), sight impaired (partially sighted) or colour blind people
- hearing - like people who are deaf or hard of hearing
- mobility - like those who find it difficult to use a mouse or keyboard
- thinking and understanding - like people with dyslexia, autism or learning difficulties

Meeting government accessibility requirements

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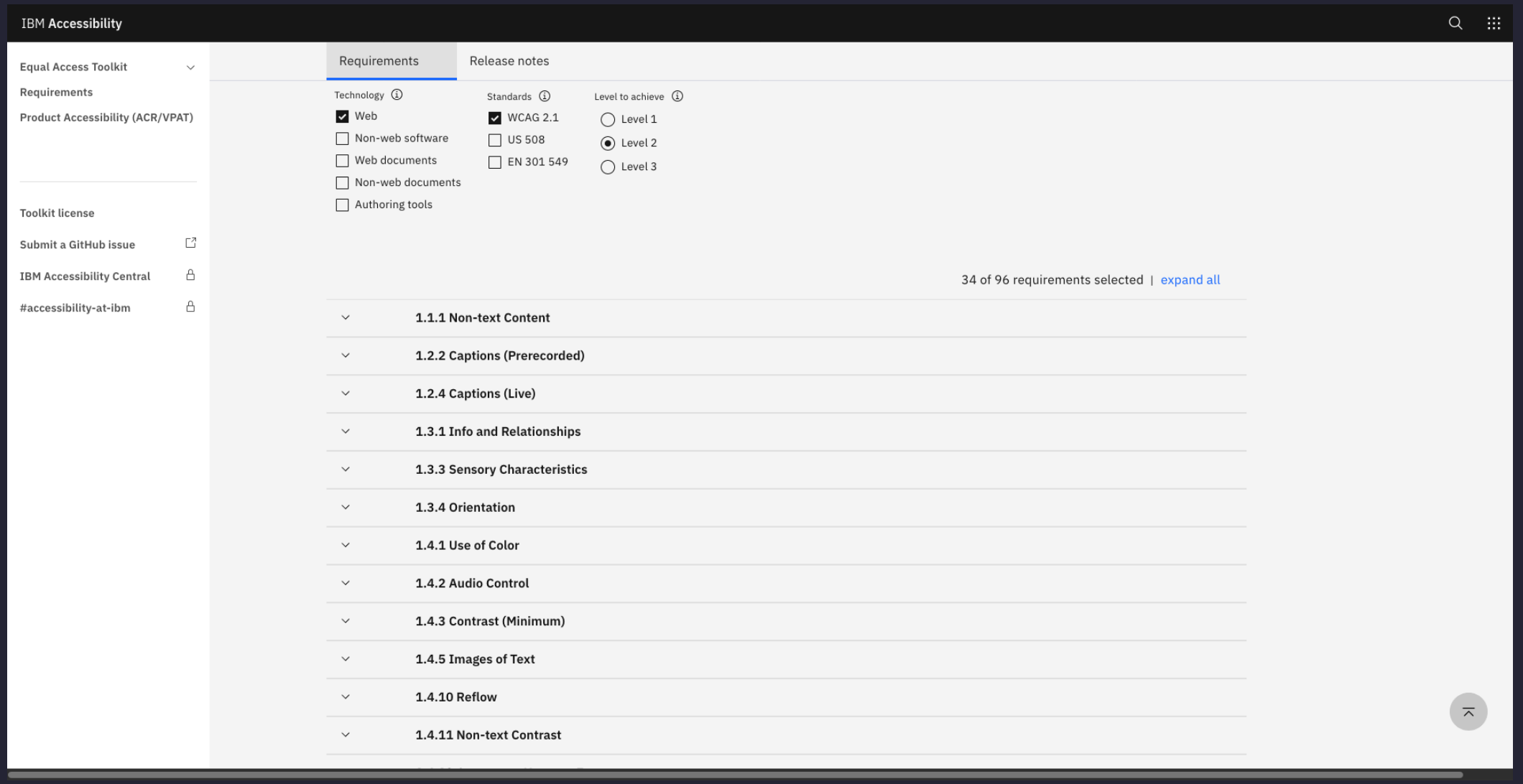

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Never stop improving your testing skills

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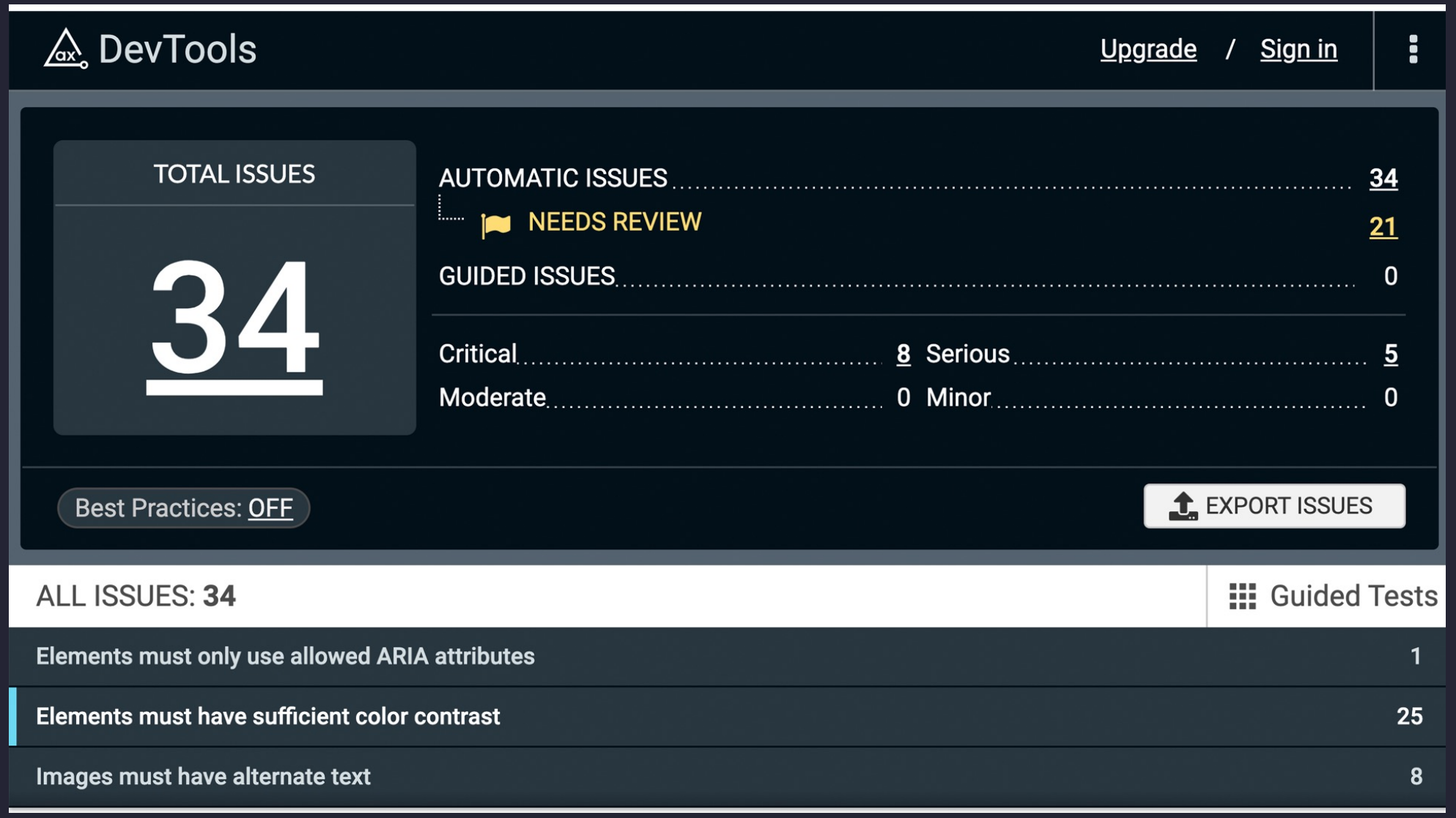

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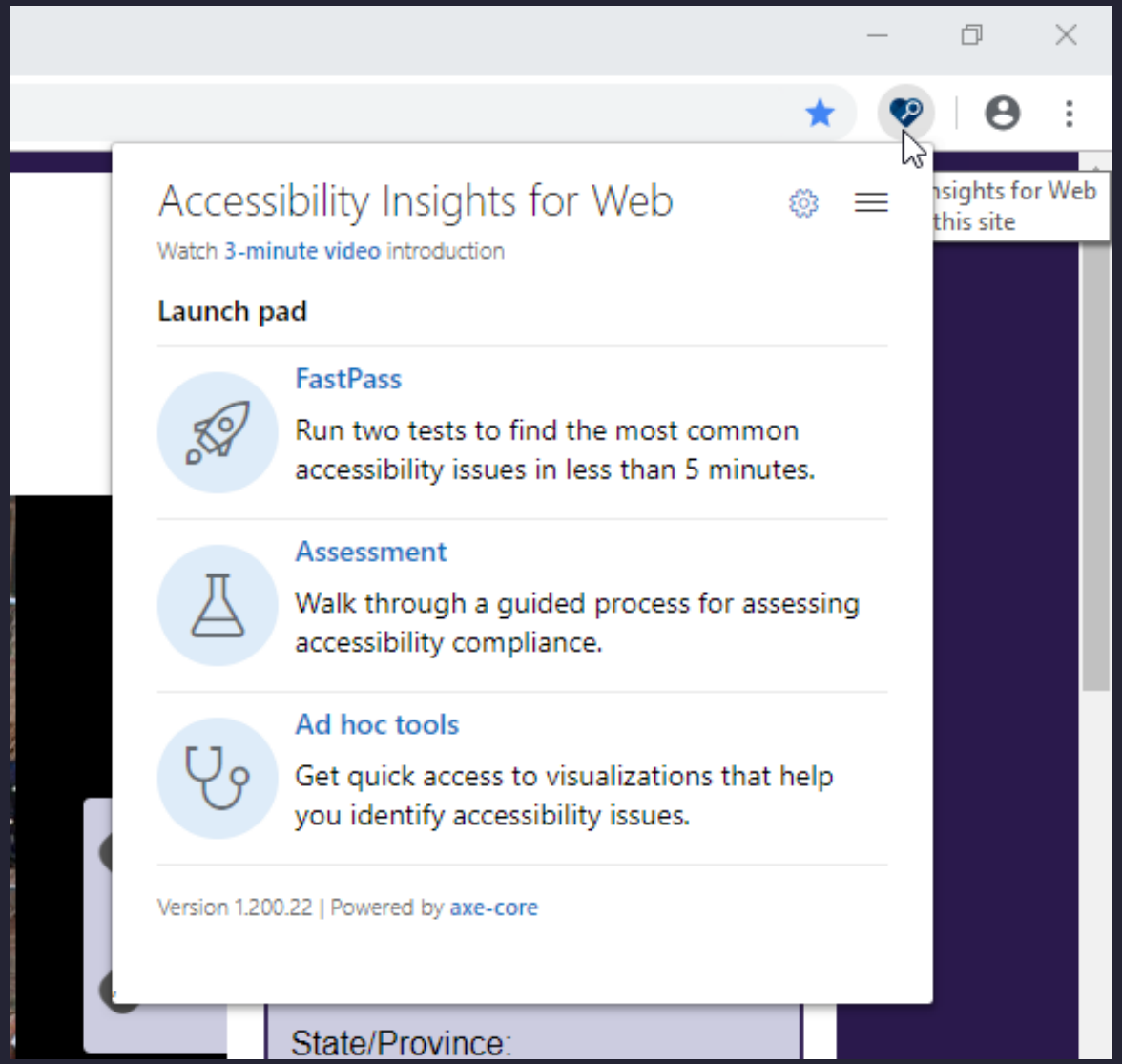

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Quick disclaimer

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Take advantage of the available tools

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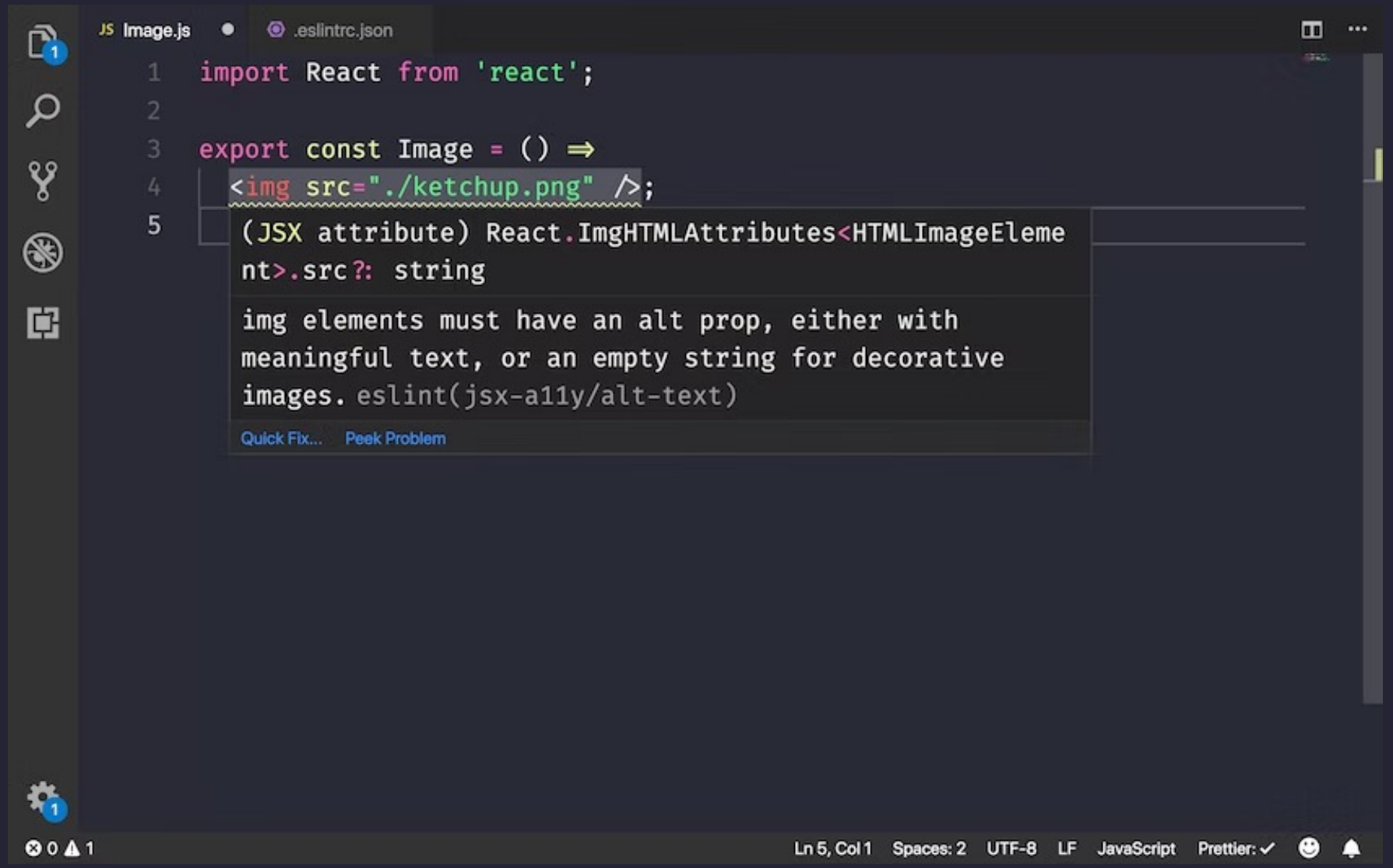

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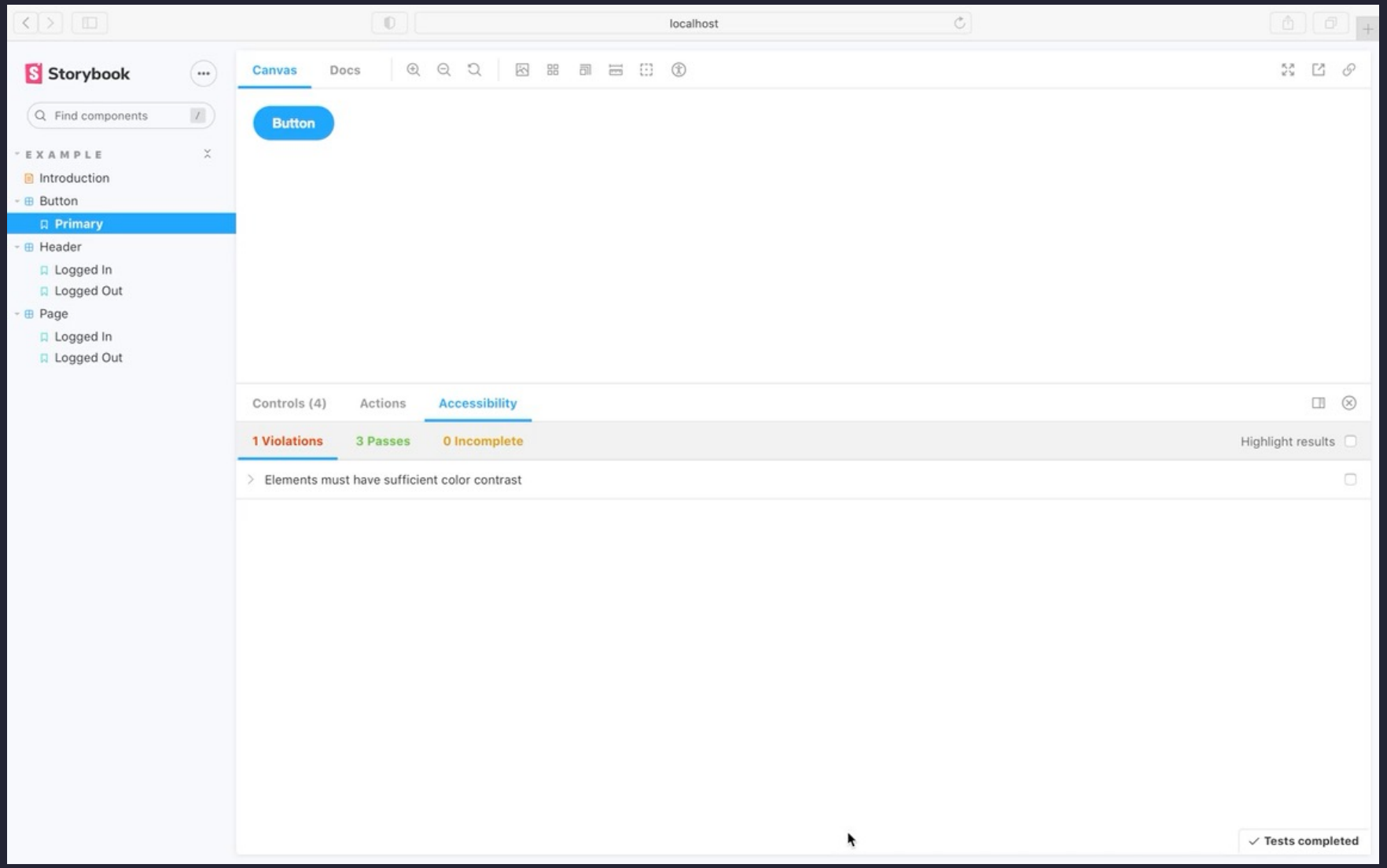

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Use the force aka provide the right data or you'll get yelled at by your computer

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```jsx
import PropTypes from "prop-types";

const Image = ({ src, alt, className }) => (
  <img src={src} alt={alt} className={className} />
);

Image.propTypes = {
  src: PropTypes.string.isRequired,
  alt: PropTypes.string.isRequired,
  className: PropTypes.string,
};

export default Image;
```


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```tsx
interface ImageProps {
    src: string;
    alt: string;
    className?: string;
}

const Image = ({ src, alt, className }: ImageProps) =>
 <img src={src} alt={alt} className={className} />;

export default Image;
```


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Accessible component ≠ Accessible page

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Don’t forget to commission a proper professional audit

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Outro

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The work is never done but a bit of effort is better than no effort at all

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Your most powerful weapon is empathy

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Thank you!

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We are hiring!
We are looking for a Senior Product Manager in the Design System team

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Resources

- Slides:
- Accessibility definition: https://developer.mozilla.org/en-US/docs/Web/Accessibility
- Disabilities illustration: https://devblogs.microsoft.com/xamarin/the-journey-to-accessible-apps
- Financial statistic: https://wearepurple.org.uk/the-purple-pound-infographic
- Design systems and accessibility: https://xd.adobe.com/ideas/principles/design-systems/accessibility-in-design-systems
- Contrast checker: https://webaim.org/resources/contrastchecker
- Stripe colour system: https://stripe.com/blog/accessible-color-systems
- HTML and accessibility: https://developer.mozilla.org/en-US/docs/Learn/Accessibility/HTML
- ARIA button example: https://developer.mozilla.org/en-US/docs/Web/Accessibility/ARIA/Roles/button_role
- Keyboard accessibility: https://webaim.org/techniques/keyboard
- Screen readers accessibility: https://blog.hubspot.com/website/screen-reader-accessibility
- GOV.UK understanding WCAG: https://www.gov.uk/service-manual/helping-people-to-use-your-service/understanding-wcag

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- IBM accessibility requirements: https://www.ibm.com/able/requirements/requirements
- GOV.UK accessibility statement: https://design-system.service.gov.uk/accessibility
- Deque axe DevTools extension: https://www.deque.com/axe/devtools/chrome-browser-extension
- Accessibility Insights: https://accessibilityinsights.io/
- Accessibility auditing with React: https://web.dev/accessibility-auditing-react
- Accessibility tests with Storybook: https://storybook.js.org/docs/react/writing-tests/accessibility-testing
- Enforcing accessibility best practices: https://bradfrost.com/blog/post/enforcing-accessibility-best-practices-with-component-proptypes

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