WCAG Compliance Improvements and Accessibility Best Practices

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John Hancock

Understanding Users with **Visual Disabilities**

Who are our users?

Globally, at least **2.2 billion people** have a near or distance vision impairment.

The World Health Organization (WHO) identifies **4% of the global population are visually impaired**, 4% as having low vision and 0.6% as being blind.

Vision loss can affect people of all ages; however, **most people with vision impairment and blindness are over 50 years — the average JHIRA user is 54 years.**

The disabled population overlaps with the aging, consequently overlapping with our users.

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How do they use screen readers?

According to a WebAIM survey of 1,198 respondents, an average of

14% of users use a screen reader to navigate the web.

🔊 **71%** of screen reader users surveyed rely **exclusively on screen reader audio.**

👁 **88%** of screen reader users use it due to a disability, and 76% of those are **blind.**

Note: All my personal testing has only been done on Voiceover on the Chrome browser. We'll want to ensure that pages are accessible with popular screen readers like NVDA and JAWS and browsers like Firefox.

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Accessibility Criteria:

Web Content Accessibility Guidelines (WCAG)

Establishes criteria for creating accessible digital content, ensuring usability and **equitable experiences** for people of all abilities.
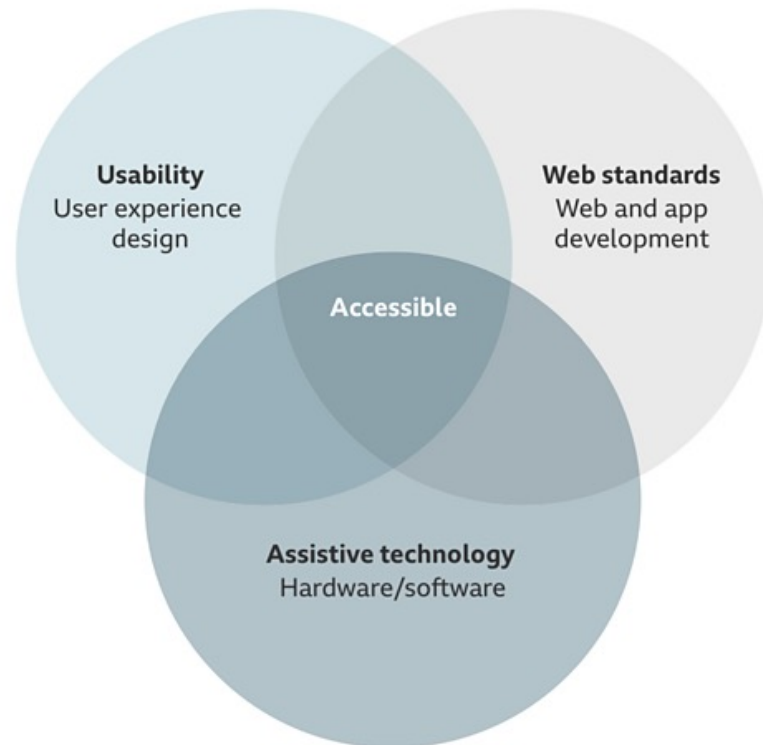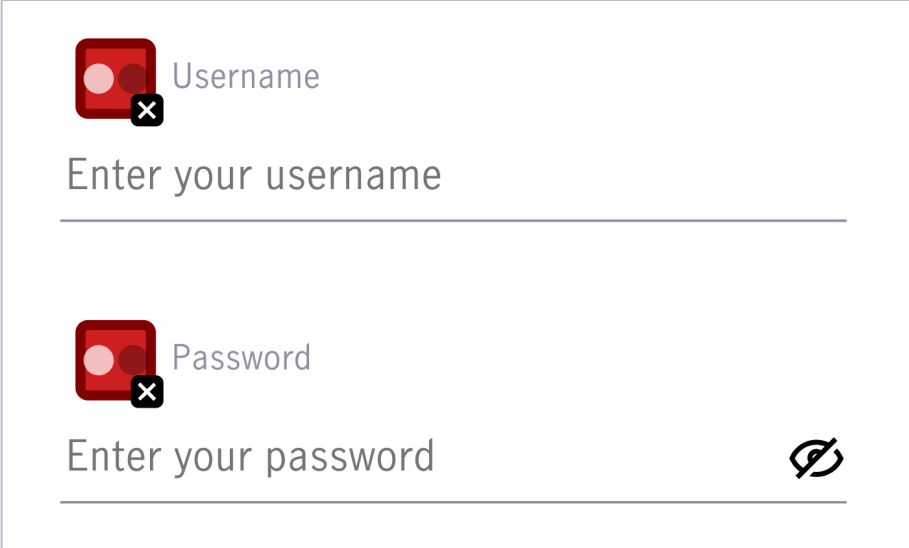

And of course, complying will help us avoid lawsuits!

Accessibility Audit:
Quick Hits

Log In Page

Insufficient Contrast

- **Why it matters:** Adequate contrast of text is necessary for all users, especially users with low vision.

- **How to improve:** The visual presentation of text should have a **contrast ratio** of at least **4.5:1**. Enhanced: **7:1**

  - **Suggestion:** Use **Light 3 Navy** for "Username" and "Password" instead of Light 4 Navy. (3 is darker)
  - Try it yourself: **Contrast checker**

Username

Enter your username

Password

Enter your password

Insufficient Contrast — Redesign

Original

Username

Enter your username

Password

Enter your password 👁̸

Redesign

Username

Enter your username

Password

Enter your password 👁̸

Light 4 Navy (#8E90A2)

a

Contrast Ratio
3.15:1

Normal Text
WCAG AA: Fail
WCAG AAA: Fail

Light 3 Navy (#5E6073)

a

Contrast Ratio
13.95:1

Normal Text
WCAG AA: Pass
WCAG AAA: Pass

Color Accessibility Guide on Brand Hub

Colour accessibility

Colour accessibility is key in ensuring that digital content can be *perceived by all* audiences. It is achieved when sufficient contrast is applied between colours – making text or a graphic *distinguishable* from its background.

Different contrast ratios are required depending on usage (3:1 or 4.5:1).

These ratios are recommended by the internationally recognized Web Content Accessibility Guidelines (WCAG) version 2.1, when complying at level AA. This is also compliant with Accessibility for Ontarians with Disabilities Act (AODA), applicable in Ontario, Canada.

*Note that the colour Dark Grey in our Visual System is labelled Light 5 Navy in CDS; the two guides use different labels, but the colour values are exactly the same.

(!) Non compliant colours require a specific execution.
For design support, please reach out to **Brand@manulife.com**.

(X) **Non compliant colours**

[R] **Compliant in RGB** but not CMYK

Text

These rules apply to both colour text and White text over colour background.

- Large-text application: Text **equal to or larger** than 14 pt bold or 18 pt regular requires a **3:1 contrast ratio.**
- Small-text application: Text **less than** 14 pt bold or 18 pt regular requires a **4.5:1 contrast ratio.**

For more details, refer to Typography: Usage rules on page 27.

Icons

- **Functional icons**: Icons that serve a specific and imperative purpose for the viewer require a **3:1 contrast ratio.**
- Icons that have no specific informative value are **exempt entirely** from colour contrast rules.

For more details, refer to Icons: Usage rules on page 44.

Charts and graphs

- Colours in charts and graphs need to meet a minimum of a **3:1 contrast ratio.**
- For more details, refer to Colour Hierarchy for Charts on page 48.

Contrast ratio	Dark 3 Green	Dark 2 Green	Dark 1 Green	Green	Light 1 Green	Light 2 Green	Light 3 Green	Light 4 Green	Dark 3 Blue	Dark 2 Blue	Dark 1 Blue	Blue	Light 1 Blue	Light 2 Blue	Light 3 Blue	Light 4 Blue	Dark 3 Coral	Dark 2 Coral	Dark 1 Coral	Coral	Light 1 Coral	Light 2 Coral	Light 3 Coral	Light 4 Coral	Dark Navy	Light 1 Dark Navy	Light 2 Dark Navy	Light 3 Dark Navy	Light 4 Dark Navy
3:1					X	X	X	X						X	X						X	X	X	X					
4.5:1				X	X	X	X	X						R	X	X				X	X	X	X	X					X

Contrast ratio	Dark Grey*	Grey	Light Grey	Dark 3 Violet	Dark 2 Violet	Dark 1 Violet	Violet	Light 1 Violet	Light 2 Violet	Light 3 Violet	Light 4 Violet	Dark 3 Gold	Dark 2 Gold	Dark 1 Gold	Gold	Light 1 Gold	Light 2 Gold	Light 3 Gold	Light 4 Gold	Dark 3 Turquoise	Dark 2 Turquoise	Dark 1 Turquoise	Turquoise	Light 1 Turquoise	Light 2 Turquoise	Light 3 Turquoise	Light 4 Turquoise
3:1	X	X	X								X				X	X	X	X	X		X	X	X	X	X	X	X
4.5:1	X	X	X							X	X				X	X	X	X	X		X	X	X	X	X	X	X

Welcome Page

Logo has no Accessible Alt Text

- **Why it matters:** When navigating to a button, descriptive text must be presented to screen reader users to indicate the function of the button.

- **How to improve:** A link text should explain what information the screen reader users will get by clicking on that link.
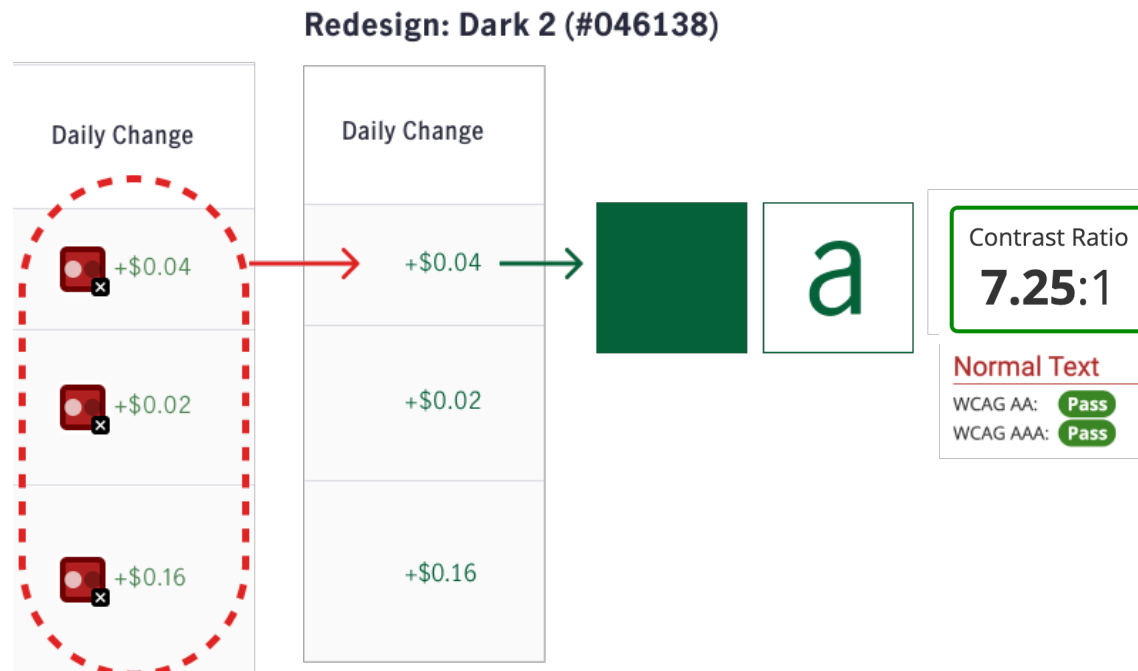 - Suggestion: aria-label="**John Hancock company**" [Source](#)
  - Problem recording:

We invite you to join our feedback hub!
Please join us and share your honest opinions on our products and

Insufficient Contrast

- **Why it matters:** Adequate contrast of text is necessary for all users, especially users with low vision.

- **How to improve:** A **contrast ratio** of at least **4.5:1**. Enhanced: **7:1**. Use **Dark 2** (#046138) for positive daily changes.

Redesign: Dark 2 (#046138)

Daily Change	Daily Change		Contrast Ratio

+$0.04 → +$0.04 → **7.25**:1

Normal Text
WCAG AA: Pass
WCAG AAA: Pass

+$0.02 → +$0.02

+$0.16 → +$0.16

Social Media Icons have no Accessible Text

- **Why it matters:** Lack of descriptive text means screen reader users have no idea what these linked images and buttons lead to.

- **How to improve:** A link text that conveys the John Hancock social media page it is leading to (e.g. "John Hancock facebook").

Problem recording:
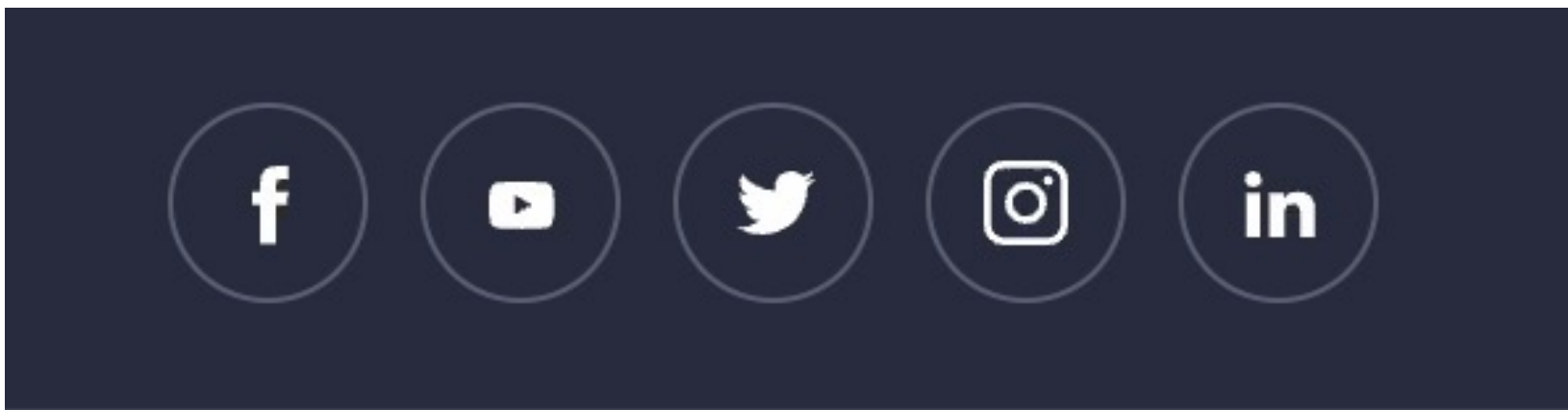
Articles have Redundant Alternative Text

- **Why it matters:** The alternative text describing the article cover images are the same as the article titles, forcing screen reader users to **hear it twice**.

Problem recording:

INTERNAL

Articles have Redundant Alternative Text

- **How to improve:** Contain both the image and the text caption within one link. The, give the image an alt="" to avoid redundancy. [Source](#)

  Suggestion: A screen reader can read, "Link, Weekly market recap".
  These linked images can only be given an empty alternative text if it is **wrapped with the text caption** in a link!
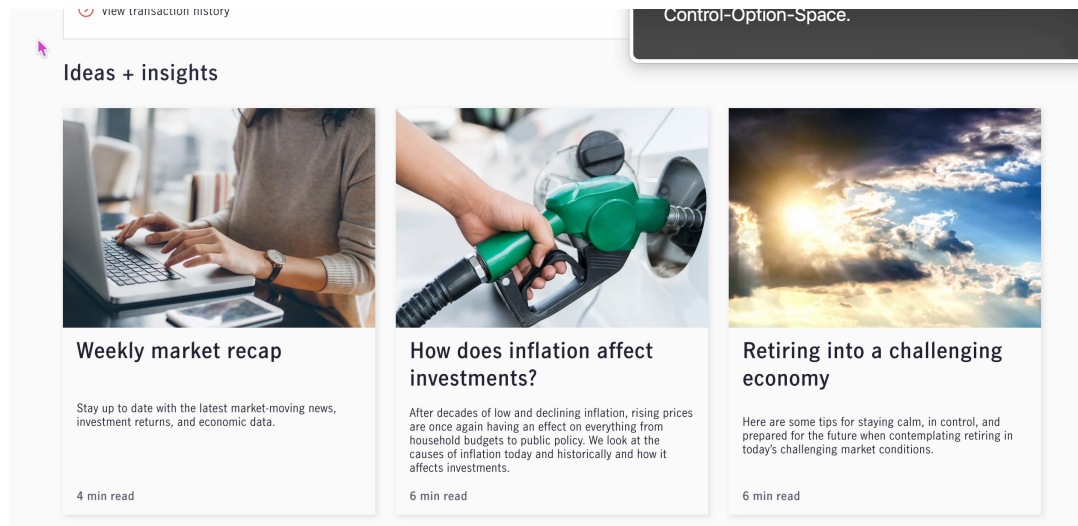
Transaction History

Insufficient Contrast

- **Why it matters:** Adequate contrast of text is necessary for all users, especially users with low vision.

- **How to improve:** The visual presentation of text should have a **contrast ratio** of at least **4.5:1**. Enhanced: **7:1**.

  - **Suggestion:** Use **Light 4 Navy** (#8E90A2) for "Username" and "Password" instead of Light 3 Navy (#5E6073).

  - Try it yourself: <u>Contrast checker</u>
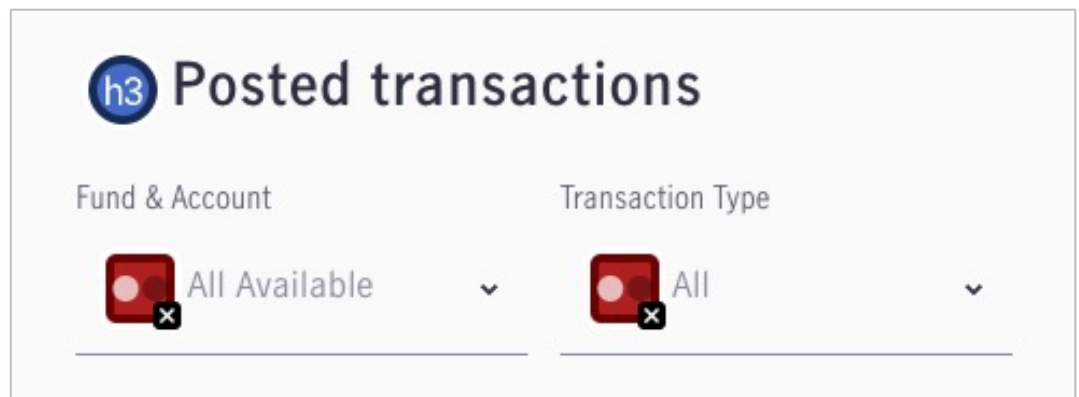
Insufficient Contrast — Redesign

Original

Light 4 Navy (#8E90A2)

Posted transactions

Fund & Account

All Available ⌄

Transaction Type

All ⌄

Contrast Ratio
3.15:1

Normal Text
WCAG AA: **Fail**
WCAG AAA: **Fail**

Redesign

Light 3 Navy (#5E6073)

Posted transactions

Fund & Account

All Available ⌄

Transaction Type

All ⌄

Contrast Ratio
13.95:1

Normal Text
WCAG AA: **Pass**
WCAG AAA: **Pass**

Page Numbers and Arrows have no Accessible Text

- **Why it matters:** Arrow buttons are empty and have no value attribute, so screen reader users have no idea the purpose of these buttons.

- **How to improve:** A link text should explain what information the screen reader users will get by clicking on that link.

  - **Suggestion:** Tag these buttons as "Page 1" "Previous Page", "Next Page".
  - **Recording of Issue:**

Personal Profile

Fields have Redundant Text

- **Why it matters:** The text describing profile fields are redundant, forcing screen reader users to **hear it twice**.

  - **Suggestion:** Remove placeholders, or make screen reader say it once.
  - **Problem recording:**

Email address

Confirm email address

⚠ This field is required

Phone number

Phone number

⚠ This field is required

Confirm email address

Confirm email address

Secondary phone number

Secondary phone number

If you would like to update the phone number you use to receive your security code during sign-in, **update your sign-in preferences here**.

Save

Cancel

Optimizing Navigation
for Screen Reader Users

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Best Practice 1:
Accessibility Skip Links

"Skip to Main Content" Link for Navigation

- **Why it matters:** Pages often contain repetitive navigation in their headers, which can be annoying to navigate with assistive technology.

- **How to improve:** Add a **skip link** to let users bypass this content.
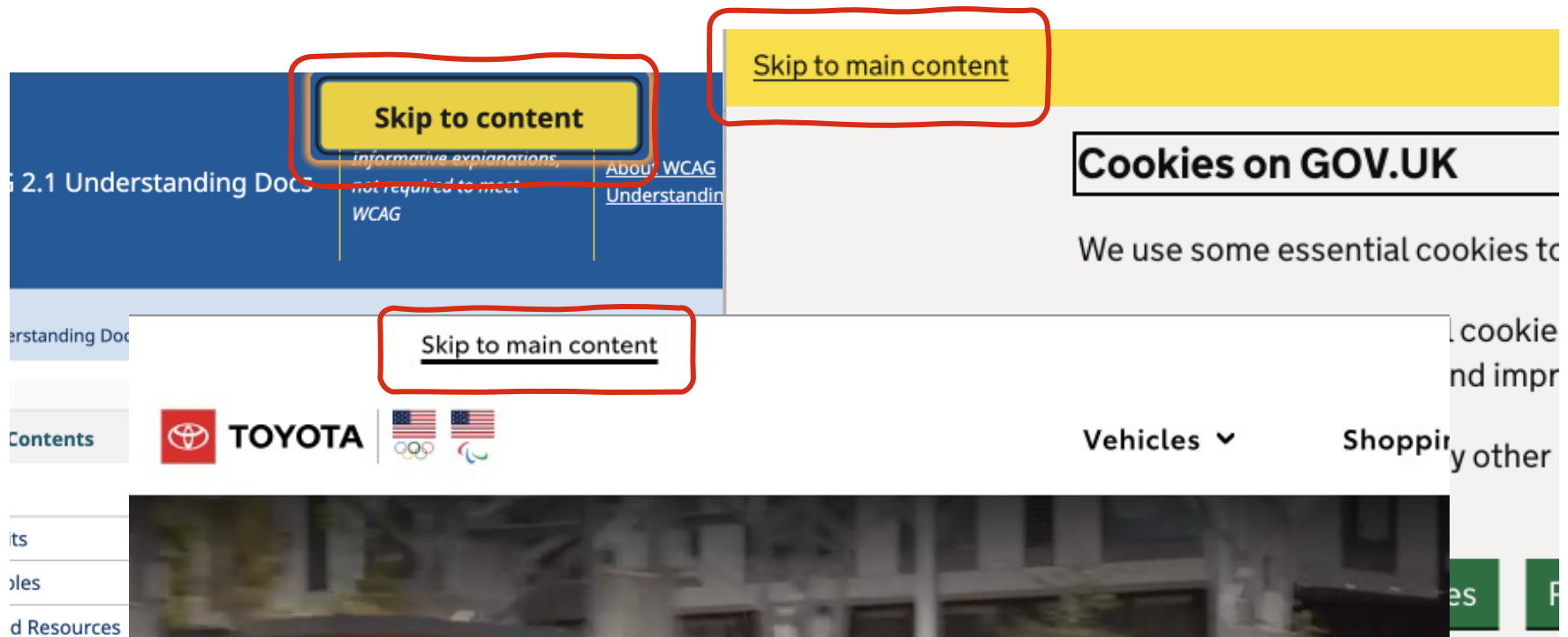
"Skip to Main Content" Link for Navigation — Design

- **Suggestion:** On each page, place a "Skip to main content" link that will trigger when a user presses tab.
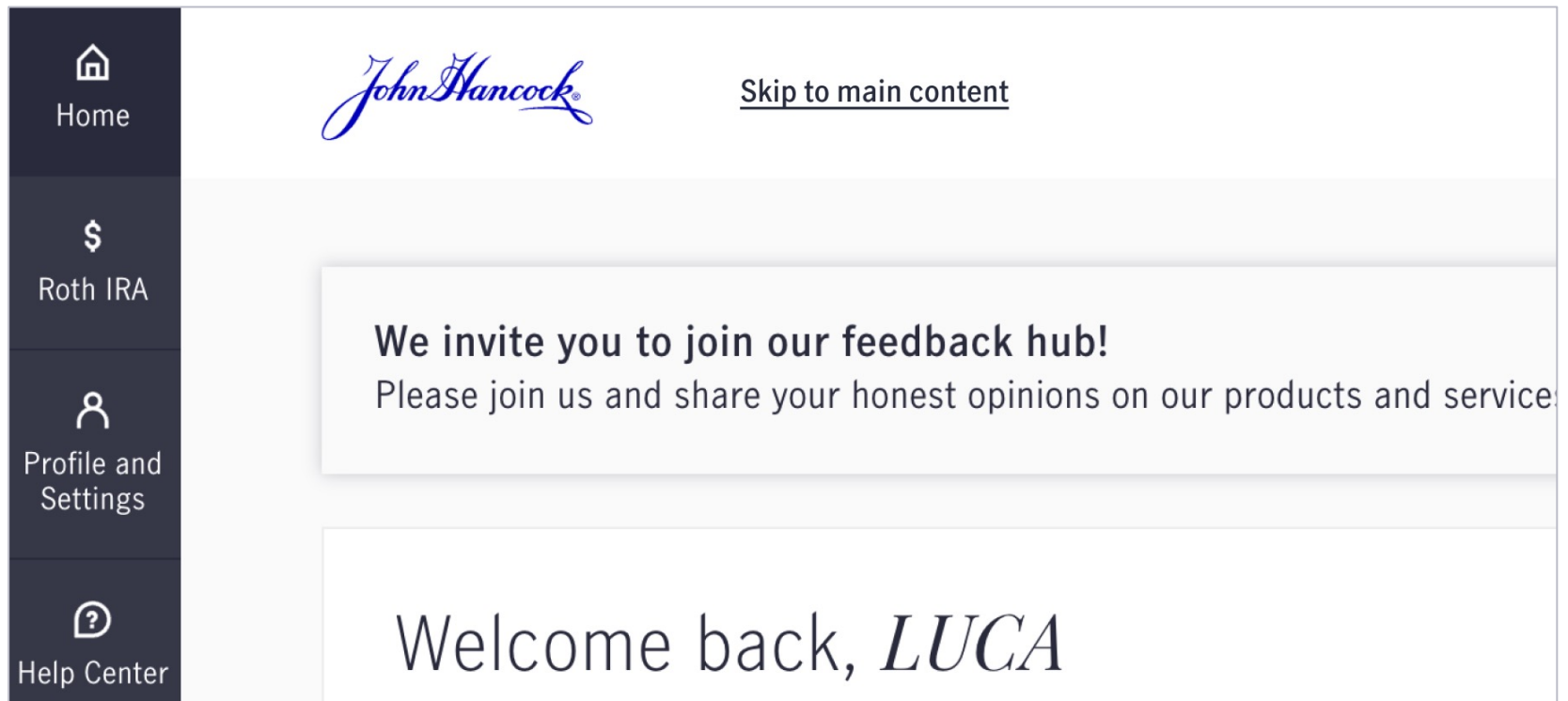
Try it Yourself!

1. Open the website webaim.org
2. Press the **tab key**
3. Press **enter** to follow the link.

Best Practice 2:
Ordering Headings

User Behavior

The majority of screen reader users say **skimming for headings** is the first thing they do when they open a Web page.

- ● Navigate Headings
- ● Use "Find"
- ● Navigate Links
- ● Navigate Landmarks/Regions
- ● Read the page

68.8%

15.7%

7%
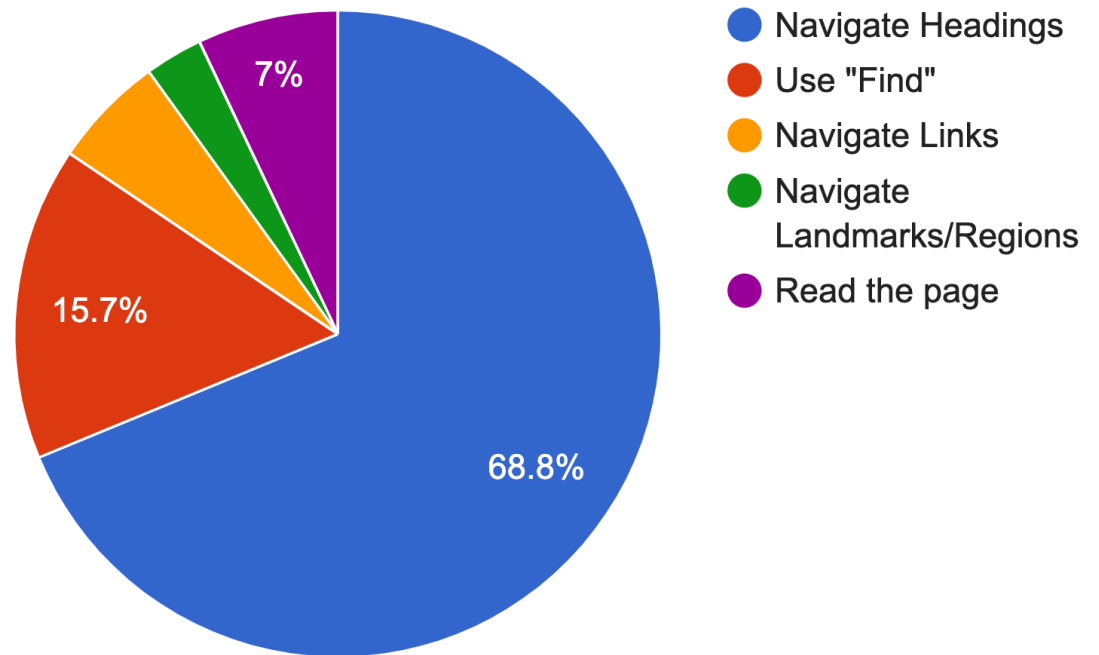
Ordering Headings for Navigation

- **Why it matters:** Screen reader users skip through headings to (1) form a mental picture of the structure of the page and (2) for quicker navigation.

- **How to improve:** Use headings **chronologically** (from the top down) to prevent user thinking if they missed an important, intermediate section.

WCAG Success Criteria: 2.4.6 (AA), **1.3.1 (A)**, **3.2.3 (AA)**

INTERNAL
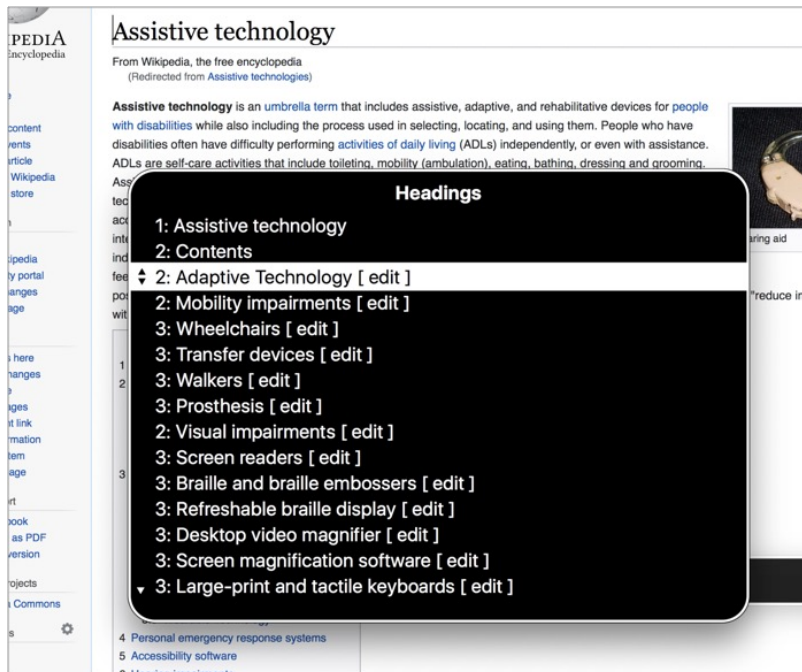
Ordering Headings for Navigation (Transaction History Page)

- **Issue:** "Transaction history" is labeled as h2, and "Pending transactions" is labeled as h4. **Skipping h3 leaves screen reader users confused** if they are missing out on information.
  - **Suggestion:** Whichever header level we choose to label headlines with, ensure they are in **chronological order from the top down**.

Ordering Headings for Navigation (Example Recording)

Example: Gov.UK

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Best Practice 3: **Structuring Semantically**

Structuring Semantically

👁 **Sighted users** depend on **visual hierarchy** to understand the structure of a page.

👁 **Non-sighted users** depend on **semantic hierarchy** to form a **mental image** of the structure of the page.

Item Chooser
Home link
Navigation link
Heading 1
Content
Heading 2
Content
Footer link
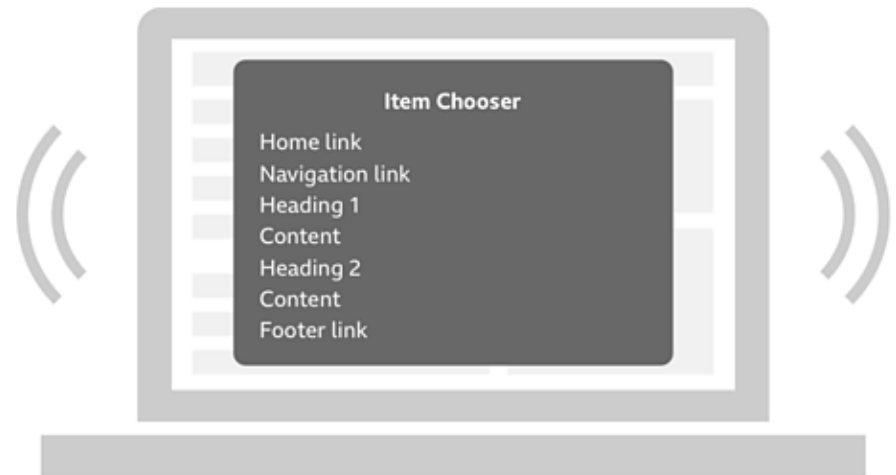
Labeling Headings Semantically (Account Overview Page)

- **How to improve:** "Account overview" and "Roth IRA" refer to the same content, so they don't need to be two separate and redundant headings to skip through. **Consider grouping them so the screen reader says "Account overview, Roth IRA".**

WCAG Success Criteria: 2.4.6 (AA), 1.3.1 (A), 3.2.3 (AA)

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Best Practice 4:
Discernible Links

Pages have Indiscernible Links

- **Why it matters:** When users skip through links using their screen reader and it reads out gibberish, that prevents a them from understanding the link's purpose.

Problem recording:

WCAG Success Criteria: 2.4.4, Section 508 (Legal)

INTERNAL

Pages have Indiscernible Links

- **How to improve:** Each link should have a unique and descriptive name that allows assistive technology users
to determine the destination, function, or purpose of links.

    - **Suggestion:** The link title will often be the title of the page it leads to.

Example: Transaction History Page

INTERNAL
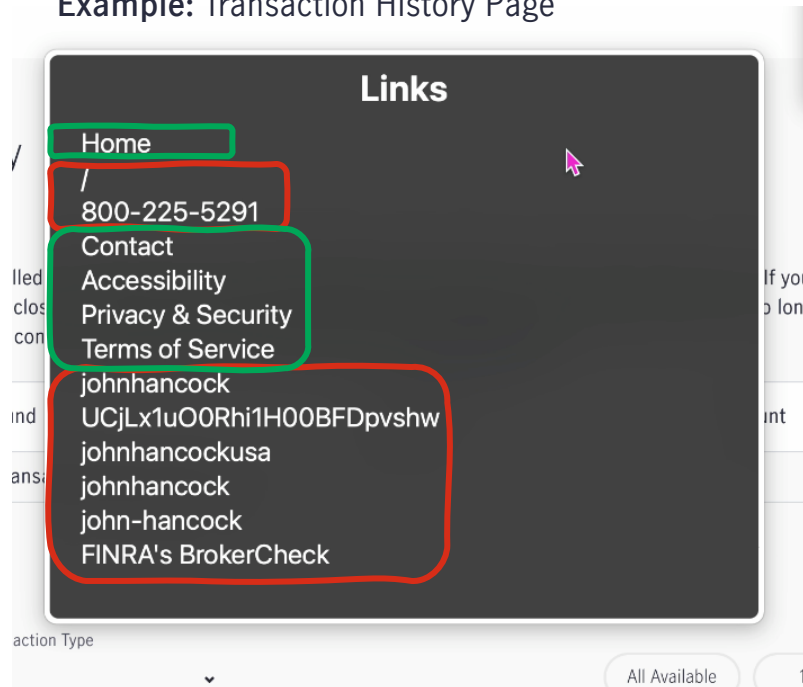
Best Practice 5:
Landmarking

Using **Landmarks** for Navigation

- **Why it matters:** Landmarks make content easy to skip through by screen readers and keyboard users, and helps user understand programmatic structure of a page.

- **How to improve:** Mark sections with landmarks roles such as **banner, navigation, main, region, and complementary**.

  - [Landmarks Example](#)

INTERNAL

Suggested Landmarks for Welcome Page

WCAG Success Criteria: 2.4.1 (A), 1.3.1 (A), 2.1.3 (AAA), How to Landmark

INTERNAL
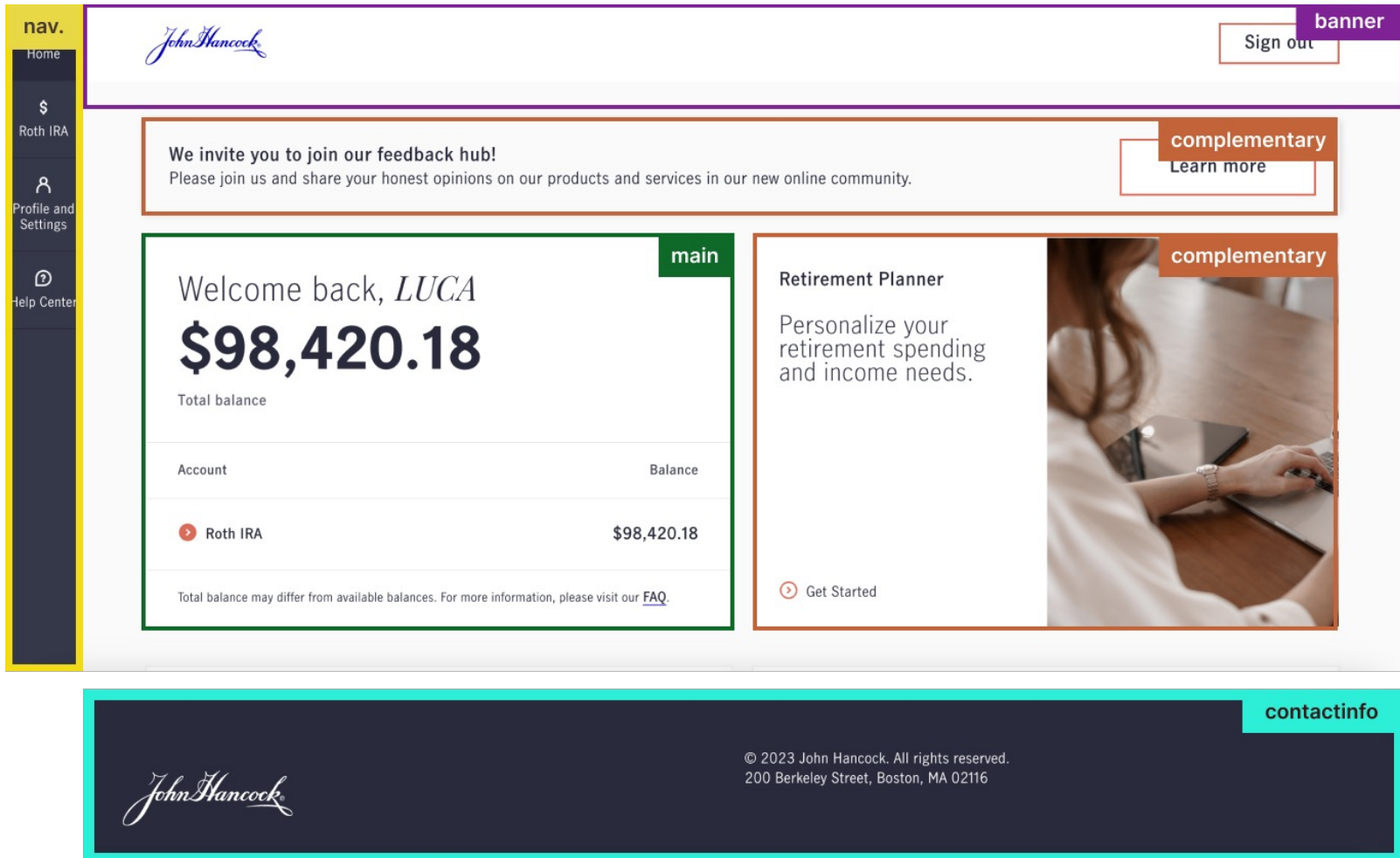
Suggested Landmarks for Account Overview Page

Screen Reader Demo of Landmarks for **FAQs Page**

WCAG Success Criteria: 2.4.1 (A), 1.3.1 (A), 2.1.3 (AAA), How to Landmark

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Holistic Screen Reader Demo Using Mac's VoiceOver

Note: All my personal testing has only been done on Voiceover on the Chrome browser. We'll want to ensure that pages are accessible with popular screen readers like NVDA and JAWS and browsers like Firefox.
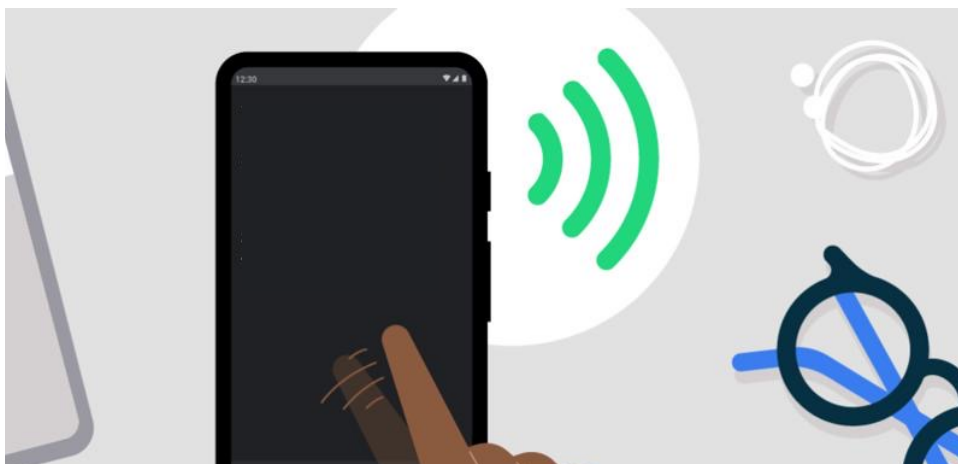
Don't forget Mobile!

According to WebAIM's 2022 survey to screen reader users,

90%

of respondents said that they've used **screen readers with smartphones and tablets.**

Accessibility Resources

1. [How to Meet WCAG (Quick Reference)](#)
2. [Brand Hub Color Accessibility](#)
3. [Skip Links](#)
4. [Robles v. Domino's Pizza, LLC](#)

Try it yourself! **Automated Accessibility Tools***

1. [Accessibility Insights](#) (Browser Extension)
2. [WAVE Web Accessibility Evaluation Tools](#) (Browser Extension)
3. [Contrast checker](#)

Outsourced Accessibility Panel

1. [Userway's Accessibility Widgets](#)

*Note: These are merely a quick, high-level starting point and should not be a replacement for a comprehensive audit. A mix of automated tools and human testing should be conducted.

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Thank you!

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