HOW TO IMPROVE YOUR PROJECT'S ACCESSIBILITY WITHOUT GETTING FRUSTRATED

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The Web is fundamentally designed to work for all people, whatever their hardware, software, language, culture, location, or physical or mental ability. When the Web meets this goal, it is accessible to people with a diverse range of **hearing**, **movement**, **sight**, *and* **cognitive** *ability.*

– *w3.org/accessibility*

Accessibility:

MAKE SURE THAT PEOPLE WITH DISABILITIES CAN EFFECTIVELY INTERACT WITH THE WEB

"On the web, every decision I make can have a profound effect on hundreds of thousands (if not millions) of people's lives. I can make checking into a flight a breeze, or I can make it a living hell.

That's a lot of power. And to quote Stan Lee: 'With great power comes great responsibility.'"

– Aaron Gustafson (Foreword in: Sarah Horton. "A Web for Everyone.")

>1 BILLION

PERSONS WITH SOME FORM OF DISABILITY

— *WHO Report 2011*

15%

PERSONS WITH SOME FORM OF DISABILITY

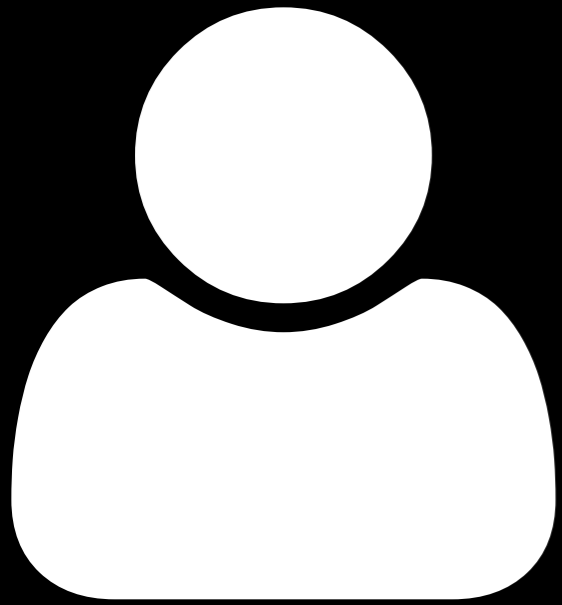— *WHO Report 2011*

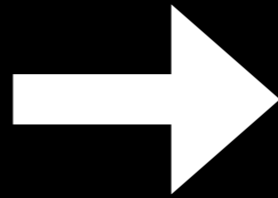one arm

arm injury

new parent

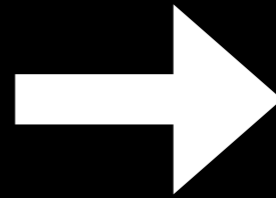permanent →→→ situational

@DSTOREY

Q: HOW DO PEOPLE WITH DISABILITIES USE THE WEB?
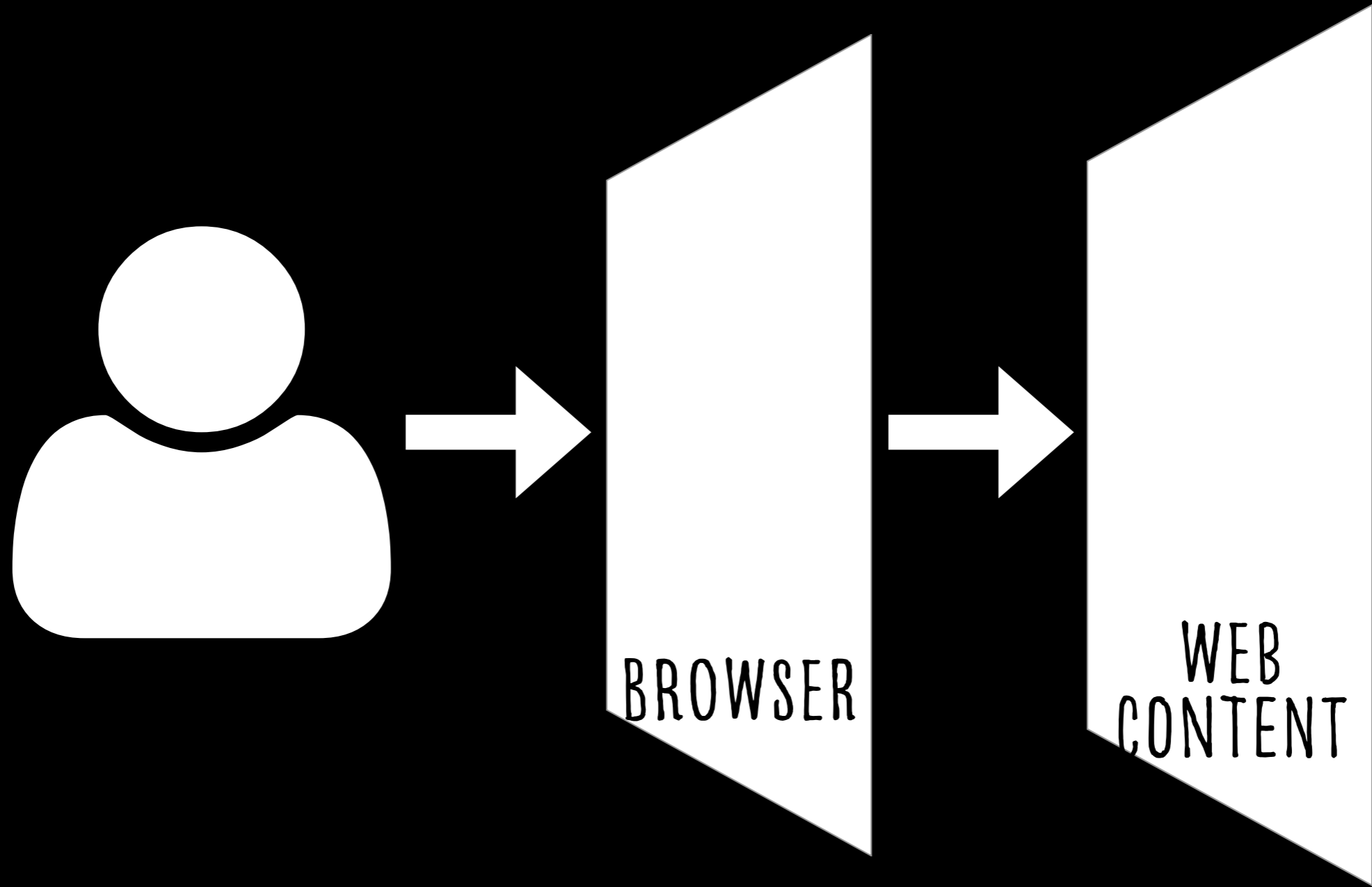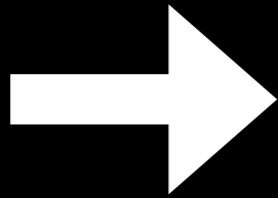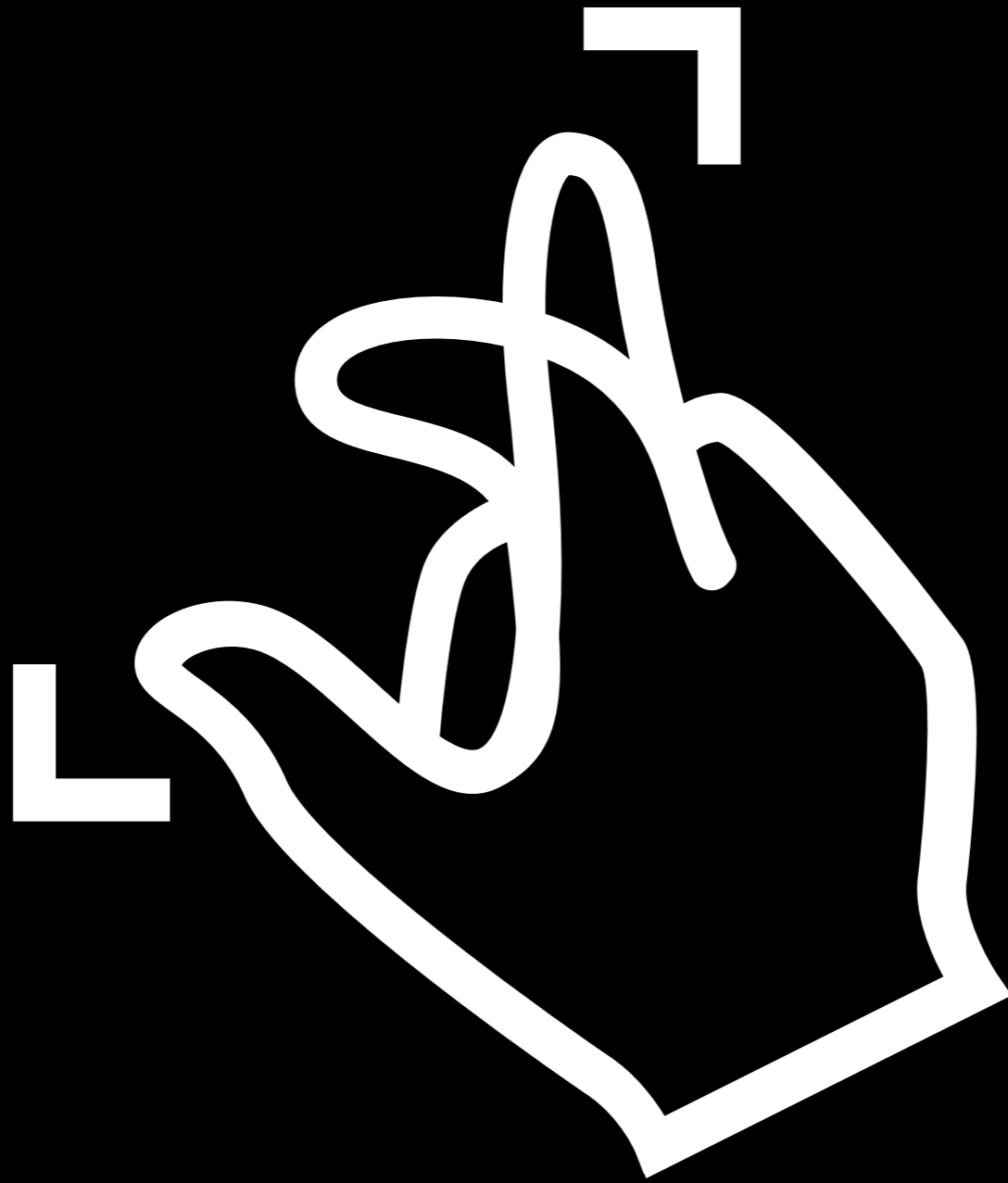
ASSISTIVE TECH → BROWSER → WEB CONTENT

ZOOM

Pinch Out by Julie Muckensturm from the Noun Project
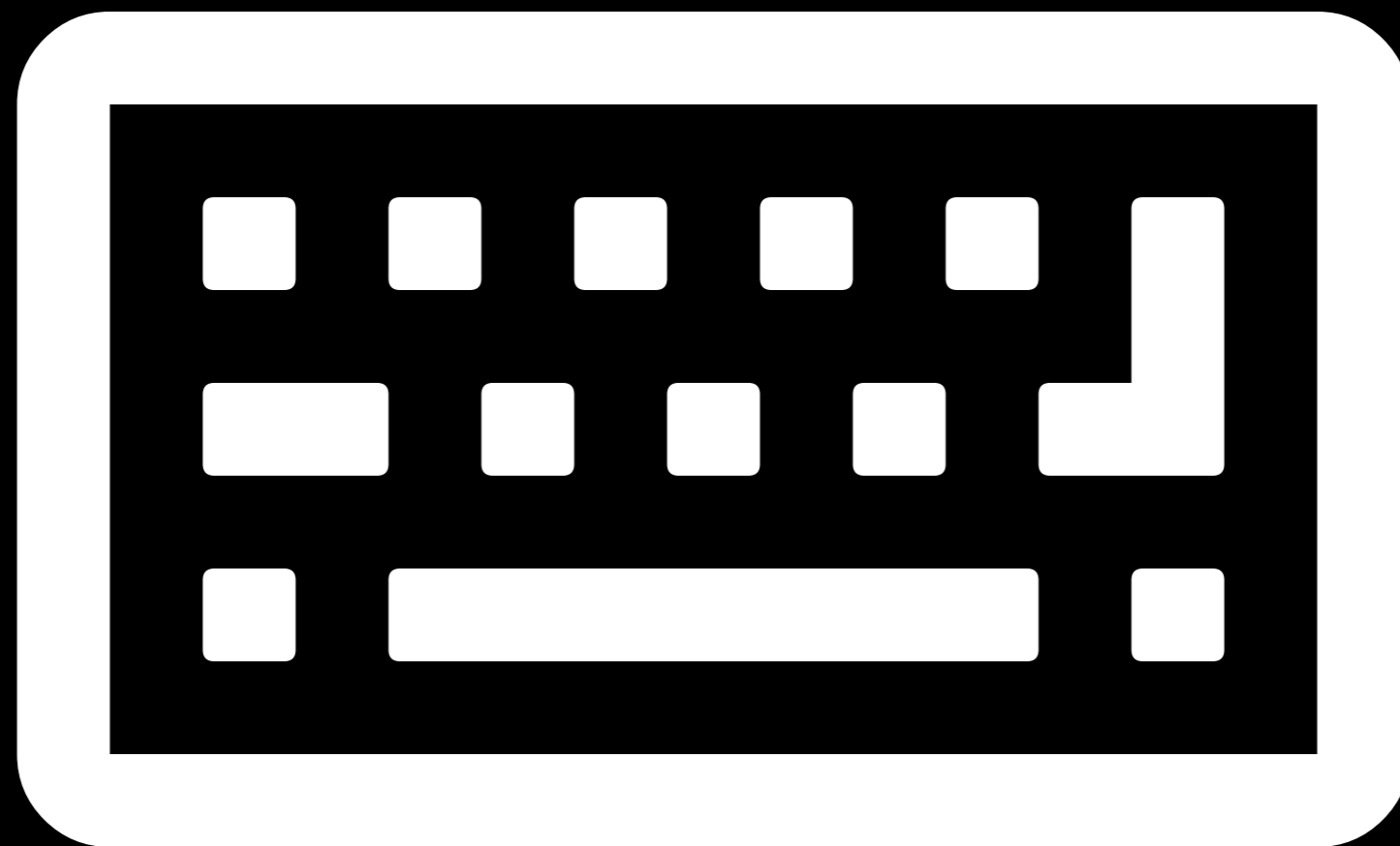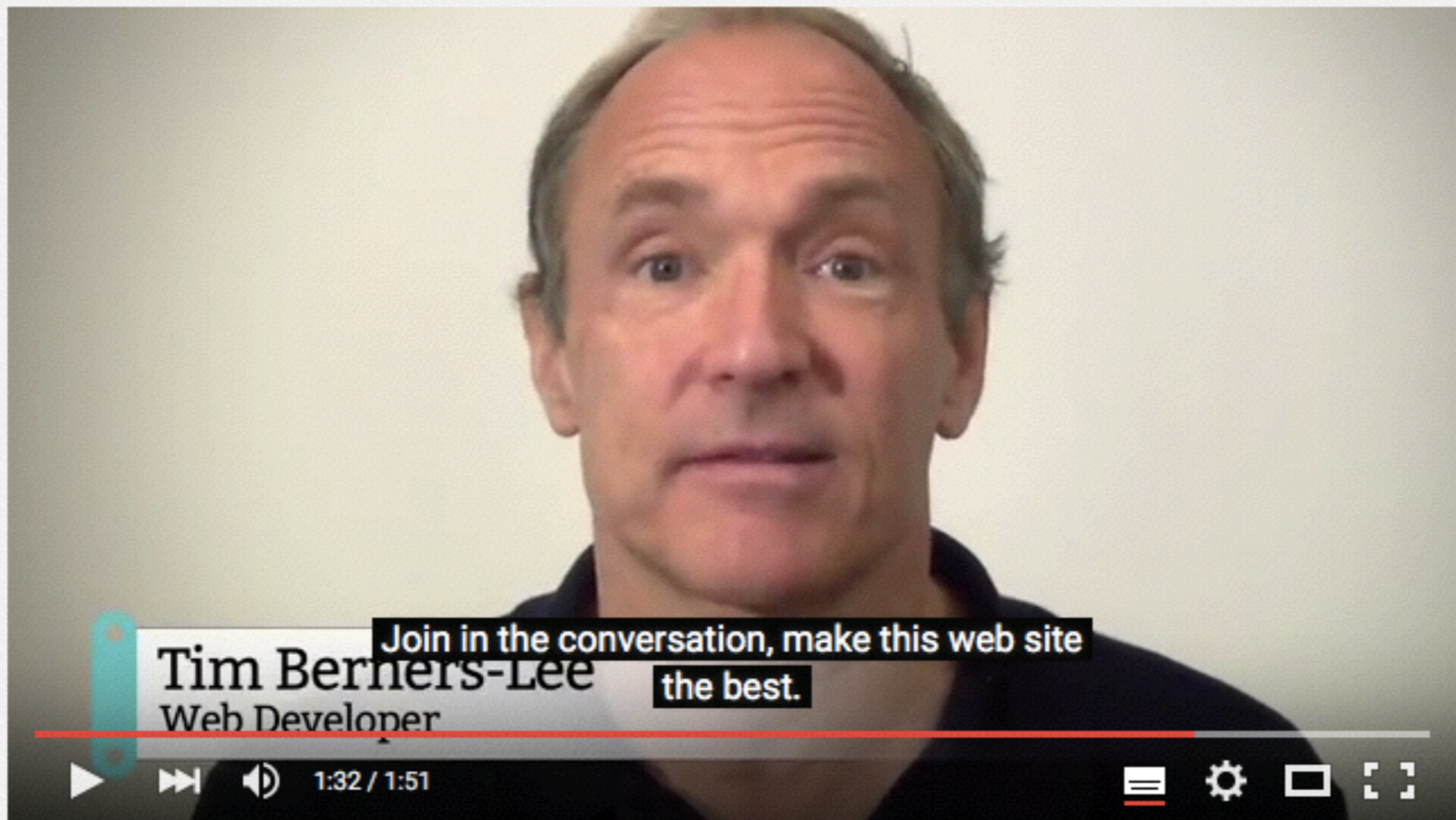
BRAILLE
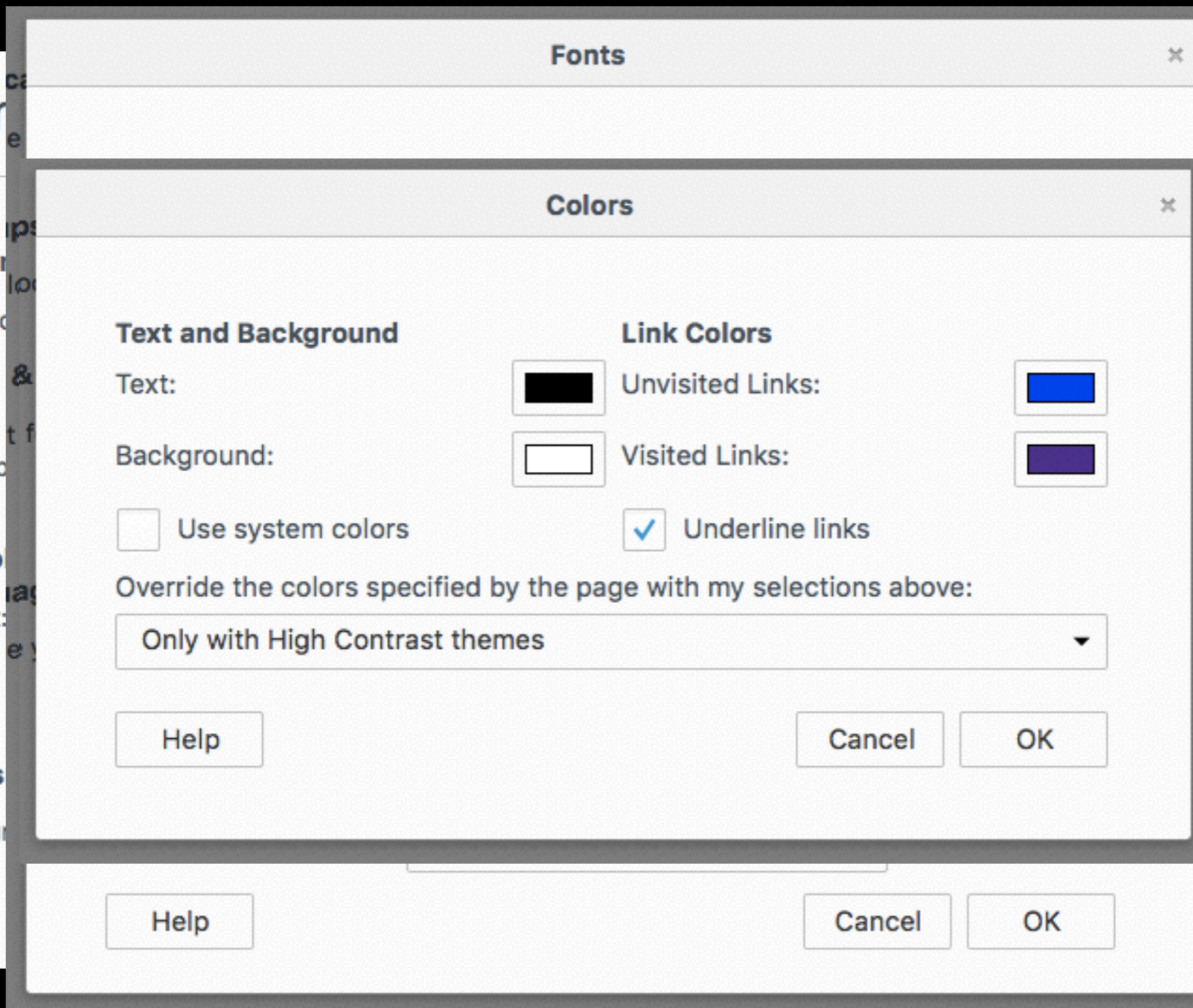
Conten

Fonts

Colors

Text and Background

Text:

Background:

☐ Use system colors

Link Colors

Unvisited Links:

Visited Links:

☑ Underline links

Override the colors specified by the page with my selections above:

Only with High Contrast themes ▾

Help   Cancel   OK

Notification

Choose whic

Pop-ups

☑ Block p

Fonts & Co

Default font:

Languages

Choose your

Choose...

ceptions...

dvanced...

Colors...

Choose...

?

Help   Cancel   OK

CUSTOMIZATIONS

CAPTIONS

RESOURCE:
HOW PEOPLE WITH DISABILITIES USE THE WEB

w3.org/WAI/intro/people-use-web/

Q: ACCESSIBILITY SOUNDS COMPLICATED.

Q: How do I **start** with Accessibility?

DESIGNERS
CONTENT CREATORS
DEVELOPERS

Tips for Getting Started with Web Accessibility

Get started with accessibility. These tips introduce some basic considerations for making your website more accessible to people with disabilities, and provide links to additional guidance. Tips are grouped by activity; information relevant to your work might be in more than one page.

Designing
for Web Accessibility

Tips for user interface and visual design.

Writing
for Web Accessibility

Tips for writing and presenting content.

Developing
for Web Accessibility

Tips for markup and coding.

Write meaningful text alternatives for images

For every image, write alternative text that provides the information or function of the image. For purely decorative images, there is no need to write alternative text.

Example: Using alternative text to communicate important information

✖ Uninformative	✔ Informative
Charging the phone: Connect the phone to a power outlet using the cable and power adaptor provided. **Alternative text for image:** "Charging phone"	Charging the phone: Connect the phone to a power outlet using the cable and power adaptor provided. **Alternative text for image:** "Plug cable into the bottom edge of the phone."

Alternative text is usually not visible; it is included in this example just so you can see what it is.

For more information

- **WCAG**
  - Non-text Content 1.1.1 (Understanding 1.1.1)
- **Tutorial**
  - Images
- **User Story**
  - Describes the value of text alternatives to a blind user

Use headings and spacing to group related content

Use whitespace and proximity to make relationships between content more apparent. Style headings to group content, reduce clutter, and make it easier to scan and understand.

Example: Spacing highlights relationship between content
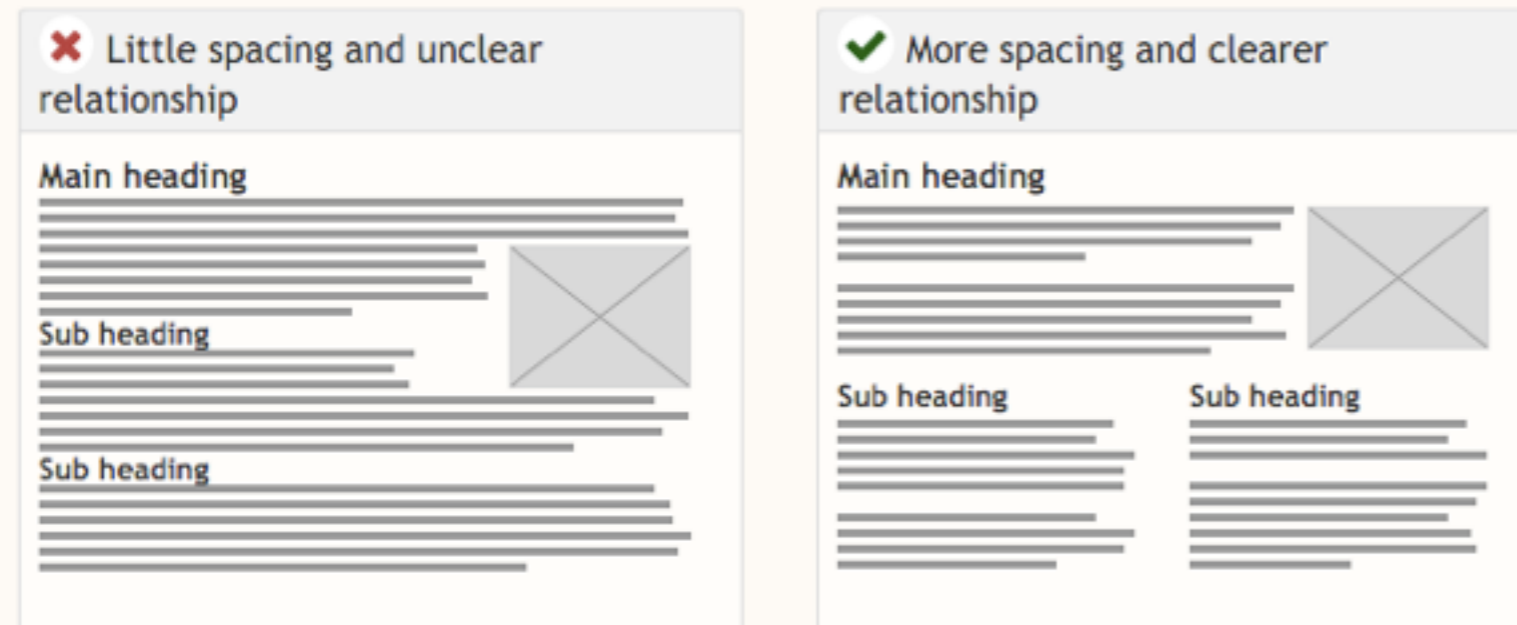
For more information

- **WCAG**
  - Headings and Labels 2.4.6 (Understanding 2.4.6)
  - Section Headings 2.4.10 (Understanding 2.4.10)
- **Tutorial**
  - Headings
- **User Story**
  - Describes how headings can be helpful for navigation

Provide sufficient contrast between foreground and background

Foreground text needs to have sufficient contrast with background colors. This includes text on images, background gradients, buttons, and other elements. This does not apply for logos, or incidental text, such as text that happens to be in a photograph. The links below provide more information on the minimum contrast ratio as required by the WCAG and how to check contrast. "Contrast ratio" is a short version of the more technically correct term "luminance contrast ratio".

Example: Contrast ratio

✖ Insufficient	✔ Sufficient
Some people cannot read text if there is not sufficient contrast between the text and background. For others, bright colors (high luminance) are not readable; they need low luminance.	Some people cannot read text if there is not sufficient contrast between the text and background. For others, bright colors (high luminance) are not readable; they need low luminance.

For more information

- **WCAG**
  - Contrast (Minimum) 1.4.3 (Understanding 1.4.3)
- **User Story**
  - How a user with "color blindness" experiences the Web
- **Easy Check**
  - How to check contrast ratio
- **Support Tools**
  - List of tools to help determine contrast ratio

Write code that adapts to the user's technology

Use responsive design to adapt the display to different zoom states and viewport sizes, such as on mobile devices and tablets. When font size is increased by at least 200%, avoid horizontal scrolling and prevent any clipping of content. Use progressive enhancement to help ensure that core functionality and content is available regardless of technology being used.

Example: Using media queries to adapt navigation

```
/* On narrow viewports, make the navigation full width */
@media screen and (min-width: 25em) {
  #nav {
    float: none;
    width: auto;
  }
  #main {
    margin-left: 0;
  }
}
```

```
/* On wider viewports, put the navigation on the left */
@media screen and (min-width: 43em) {
  #nav {
    float: left;
    width: 24%;
  }
  #main {
    margin-left: 27%;
  }
}
```

For more information

- **WCAG**
    - Resize text 1.4.4 (Understanding 1.4.4)
    - Consistent Identification 3.2.4 (Understanding 3.2.4)
- **Background**
    - Small Screen Size
- **User Story**
    - Describes how alternative views of zoomed pages can be helpful

RESOURCE:
TIPS FOR GETTING STARTED WITH WEB ACCESSIBILITY

w3.org/WAI/gettingstarted/tips/

Q: HOW DO I MAKE SURE MY WEBSITE IS ACCESSIBLE?

RESOURCE:
Web Content Accessibility Guidelines (WCAG) 2.0

w3.org/TR/WCAG/

PRINCIPLES:
PERCEIVABLE
OPERABLE
UNDERSTANDABLE
ROBUST

PERCEIVABLE:
TEXT ALTERNATIVES

```
<button>
  <span class="icon icon-pencil">
  </span>
</button>
```

```
<button title="Edit">
  <span class="icon icon-pencil">
  </span>
</button>
```

```
<button title="Edit">
  <span class="icon icon-pencil-kaput">
  </span>
</button>
```

📖 **w3c** / **wai-wcag-quickref**   ☰

📖 _help / **1-about.md**   🔗

title
About

This tool provides a customizable view on different Web Content Accessibility Guidelines (WCAG) 2.0 resources including:

- Web Content Accessibility Guidelines (WCAG) 2.0 web standard
- Techniques for WCAG 2.0 implementation guidance
- Understanding WCAG 2.0 supporting information

More background on these resources is provided in WCAG Overview and The WCAG 2.0 Documents.

IMAGES

```
<button>
  <img src="pencil.png" alt="Edit">
</button>
```

```
<button>
  <img src="pencil.svg" alt="Edit">
</button>
```

RESOURCE:
IMAGE TUTORIAL

w3.org/WAI/tutorials/images/

`<aside>`

RESOURCE:
WEB ACCESSIBILITY
TUTORIALS

w3.org/WAI/tutorials/

PAGE STRUCTURE (DRAFT)

MENUS (DRAFT)

IMAGES

TABLES

FORMS

CAROUSELS (DRAFT)

VISIBLE TEXT LABELS

```
<button>
  <span class="icon icon-pencil">
  </span>
  Edit
</button>
```

PERCEIVABLE:
COLOR CONTRAST

OPERABLE:

USABLE WITH A KEYBOARD

OPERABLE:
PROPER HEADINGS and LABELS

UNDERSTANDABLE:
PAGE LANGUAGE

UNDERSTANDABLE: CONSISTENT NAVIGATION

ROBUST:
COMPATIBILITY

Q: HOW DO I MAKE SURE MY BACKEND IS ACCESSIBLE?

Resource:
Authoring Tools Accessibility Guidelines (ATAG) 2.0

w3.org/TR/ATAG/

PART A:

MAKE THE AUTHORING TOOL USER INTERFACE ACCESSIBLE

PART B:

SUPPORT THE PRODUCTION OF ACCESSIBLE CONTENT

PART A:
MAKE THE AUTHORING TOOL USER INTERFACE ACCESSIBLE

PRINCIPLE A.1: AUTHORING TOOL USER INTERFACES FOLLOW APPLICABLE ACCESSIBILITY GUIDELINES

PRINCIPLE A.2:
EDITING-VIEWS ARE PERCEIVABLE

PRINCIPLE A.3:
EDITING-VIEWS ARE OPERABLE

GUIDELINE A.3.1:
PROVIDE KEYBOARD ACCESS TO AUTHORING FEATURES

GUIDELINE A.3.2:
PROVIDE AUTHORS WITH ENOUGH TIME

GUIDELINE A.3.4: ENHANCE NAVIGATION AND EDITING VIA CONTENT STRUCTURE

PRINCIPLE A.4:
EDITING-VIEWS ARE UNDERSTANDABLE

GUIDELINE A.4.1:
HELP AUTHORS AVOID AND CORRECT MISTAKES

GUIDELINE A.4.2: DOCUMENT THE USER INTERFACE, INCLUDING ALL ACCESSIBILITY FEATURES

PART B:
SUPPORT THE PRODUCTION OF ACCESSIBLE CONTENT

PRINCIPLE B.1:
FULLY AUTOMATIC PROCESSES PRODUCE ACCESSIBLE CONTENT

PRINCIPLE B.2:
AUTHORS ARE SUPPORTED IN PRODUCING ACCESSIBLE CONTENT

GUIDELINE B.2.3: ASSIST AUTHORS WITH MANAGING ALTERNATIVE CONTENT FOR NON-TEXT CONTENT

GUIDELINE A.2.4:

ASSIST AUTHORS WITH ACCESSIBLE TEMPLATES

PRINCIPLE B.3:
AUTHORS ARE SUPPORTED IN IMPROVING THE ACCESSIBILITY OF EXISTING CONTENT

GUIDELINE B.3.1:
ASSIST AUTHORS IN CHECKING FOR ACCESSIBILITY PROBLEMS

GUIDELINE B.3.2:
ASSIST AUTHORS IN
REPAIRING ACCESSIBILITY
PROBLEMS

PRINCIPLE B.4:
AUTHORING TOOLS PROMOTE AND INTEGRATE THEIR ACCESSIBILITY FEATURES

Q: HOW DO I MAKE SURE THAT THE EXPERIENCE IS ACCESSIBLE?

YOU ACHIEVE THE BEST RESULTS WHEN...

ACCESSIBILITY IS
NOT AN AFTERTHOUGHT

MAKES THE BACKEND
EASY TO USE

NO NEED TO REBUILD

ACCESSIBILITY IS
AN OPPORTUNITY

REACH MORE PEOPLE

MAKES YOUR WEBSITE EASY(ER) TO UNDERSTAND

CONSISTENT LAYOUT *and* NAVIGATION

Accessibility is a Creative Outlet

PRODUCE THE BEST VIDEO PLAYER UI

TAKE THE AVAILABLE DATA AND DO SOMETHING NO ONE EXPECTS

THANK YOU.

ERIC EGGERT

W3C/WEB ACCESSIBILITY INITIATIVE

EE@W3.ORG & @YATIL

FONTS: GOODLIFE (SANS CONDENSED, *Brush,* SERIF, **SERIF BOLD**),
ALEO, SOURCE CODE PRO