

# HOW TO IMPROVE YOUR PROJECT'S ACCESSIBILITY WITHOUT GETTING FRUSTRATED

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THIS IS FOR EVERYONE



**Tim Berners-Lee** ✓

@timberners\_lee



Following

This is for everyone #london2012 #oneweb  
#openingceremony @webfoundation @w3c

RETWEETS

10,228

LIKES

2,502



11:08 PM - 27 Jul 2012



*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.*

## *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**

**15%**

**PERSONS WITH SOME FORM  
OF DISABILITY**



one arm



arm injury



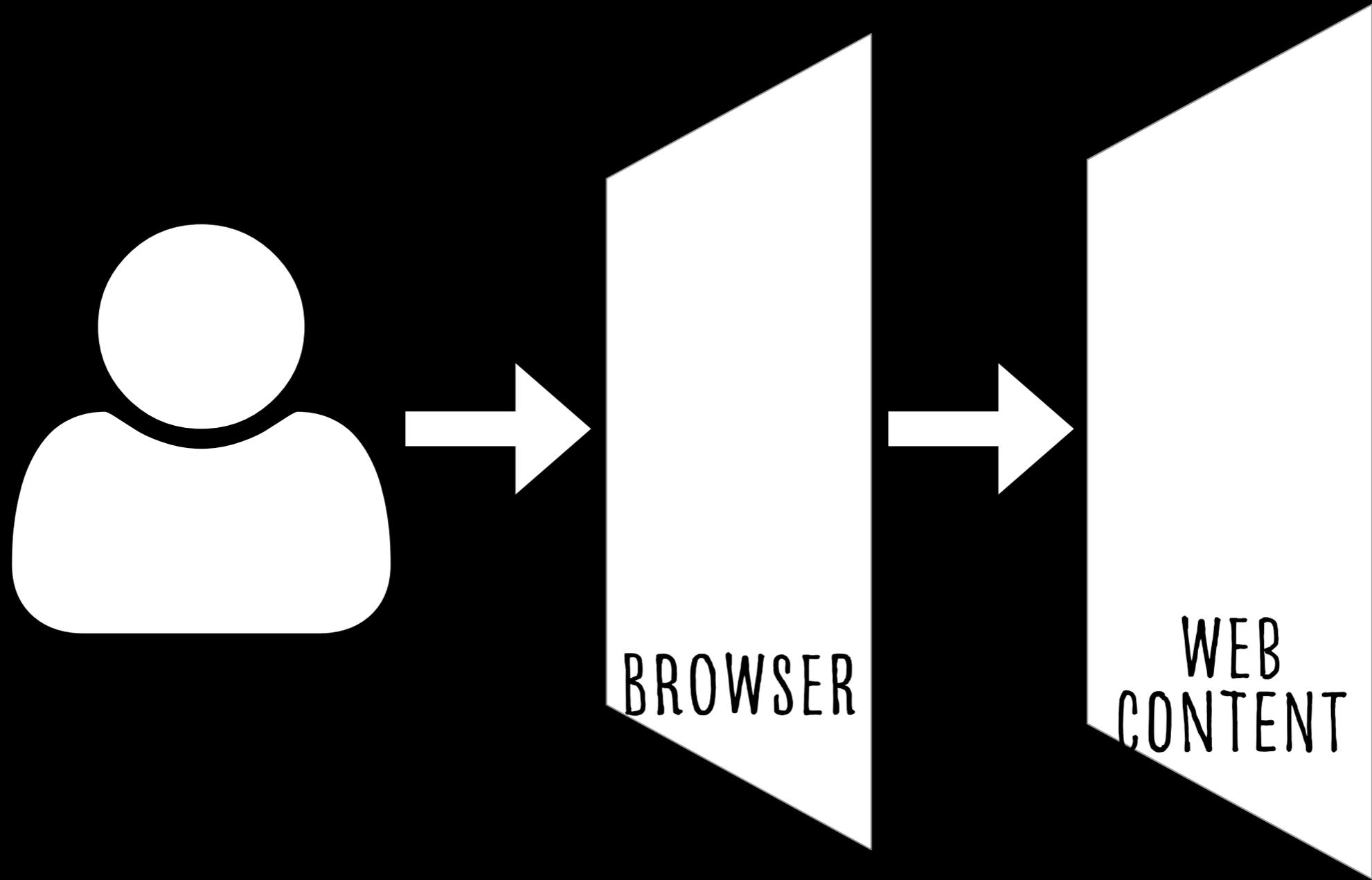
new parent

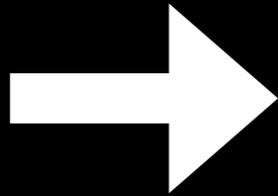
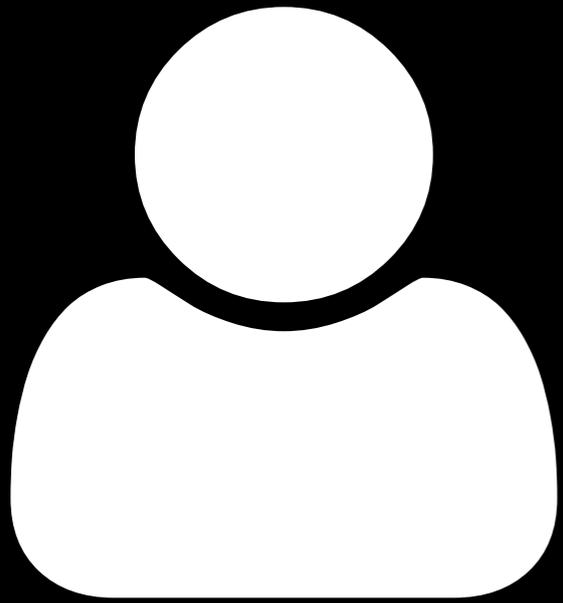
permanent



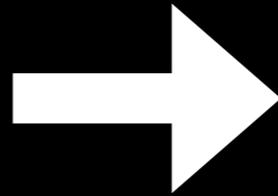
situational

**Q: HOW DO  
PEOPLE WITH DISABILITIES  
USE THE WEB?**

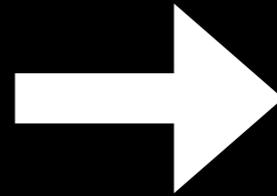




ASSISTIVE  
TECH



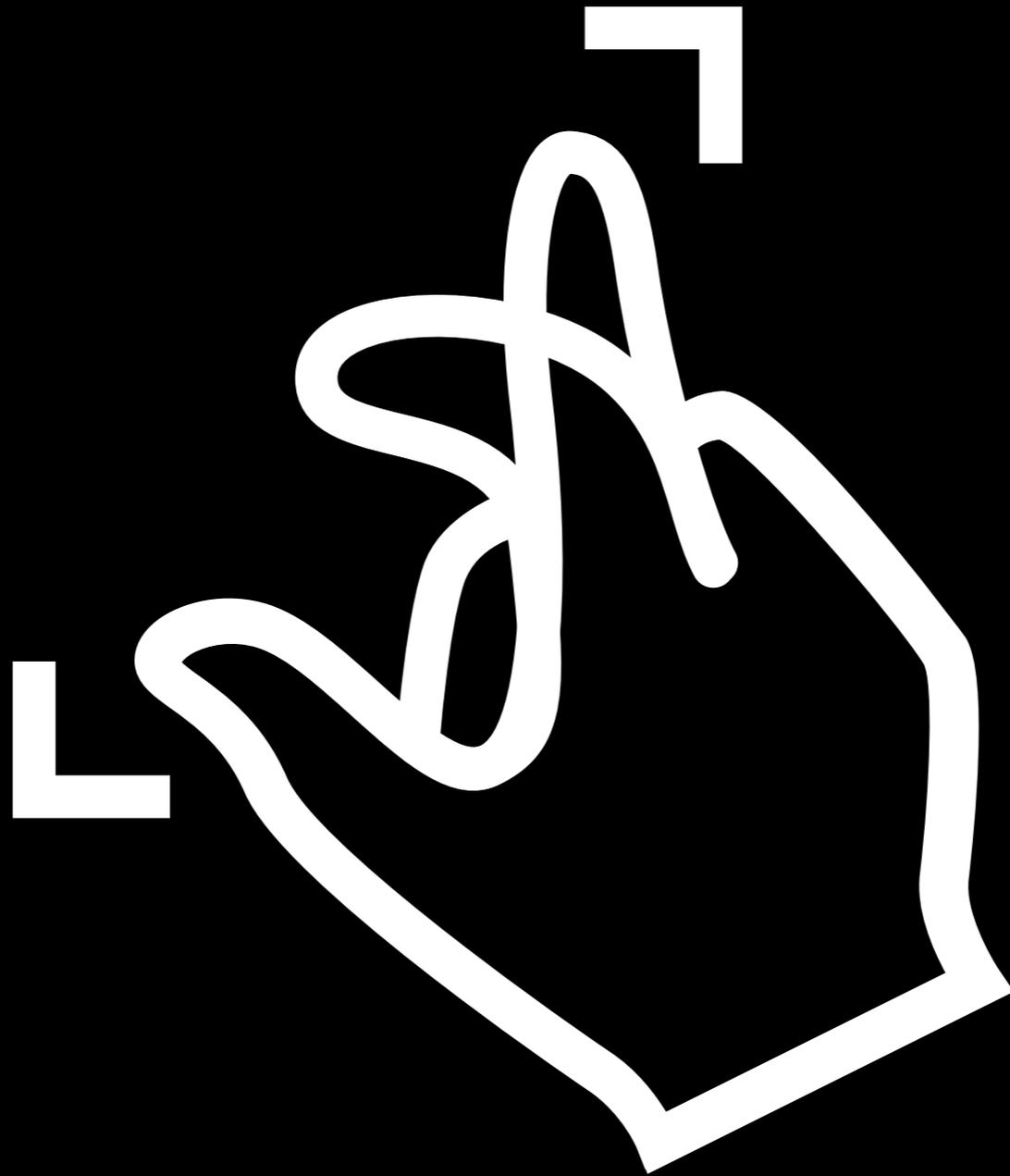
BROWSER



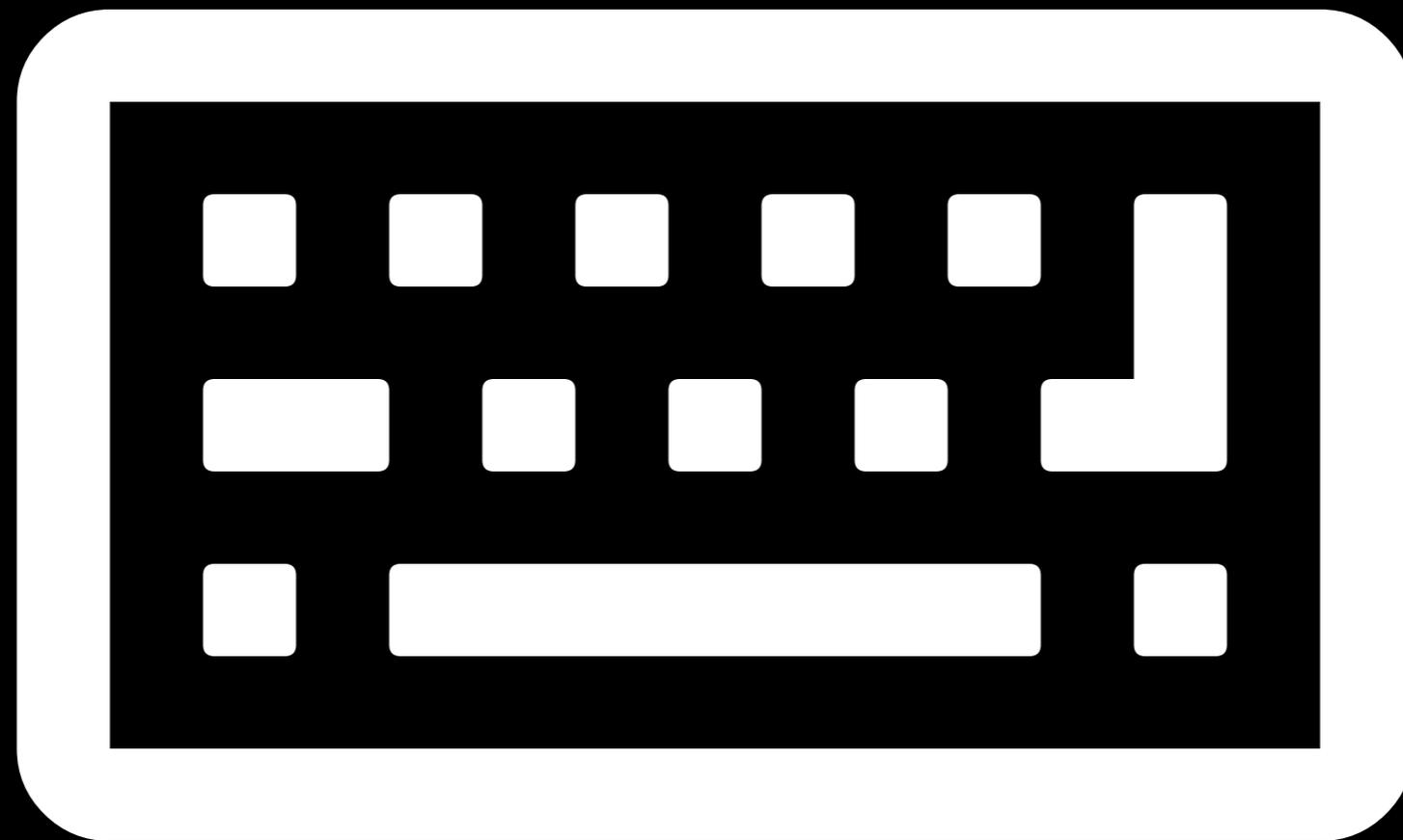
WEB  
CONTENT



ZOOM

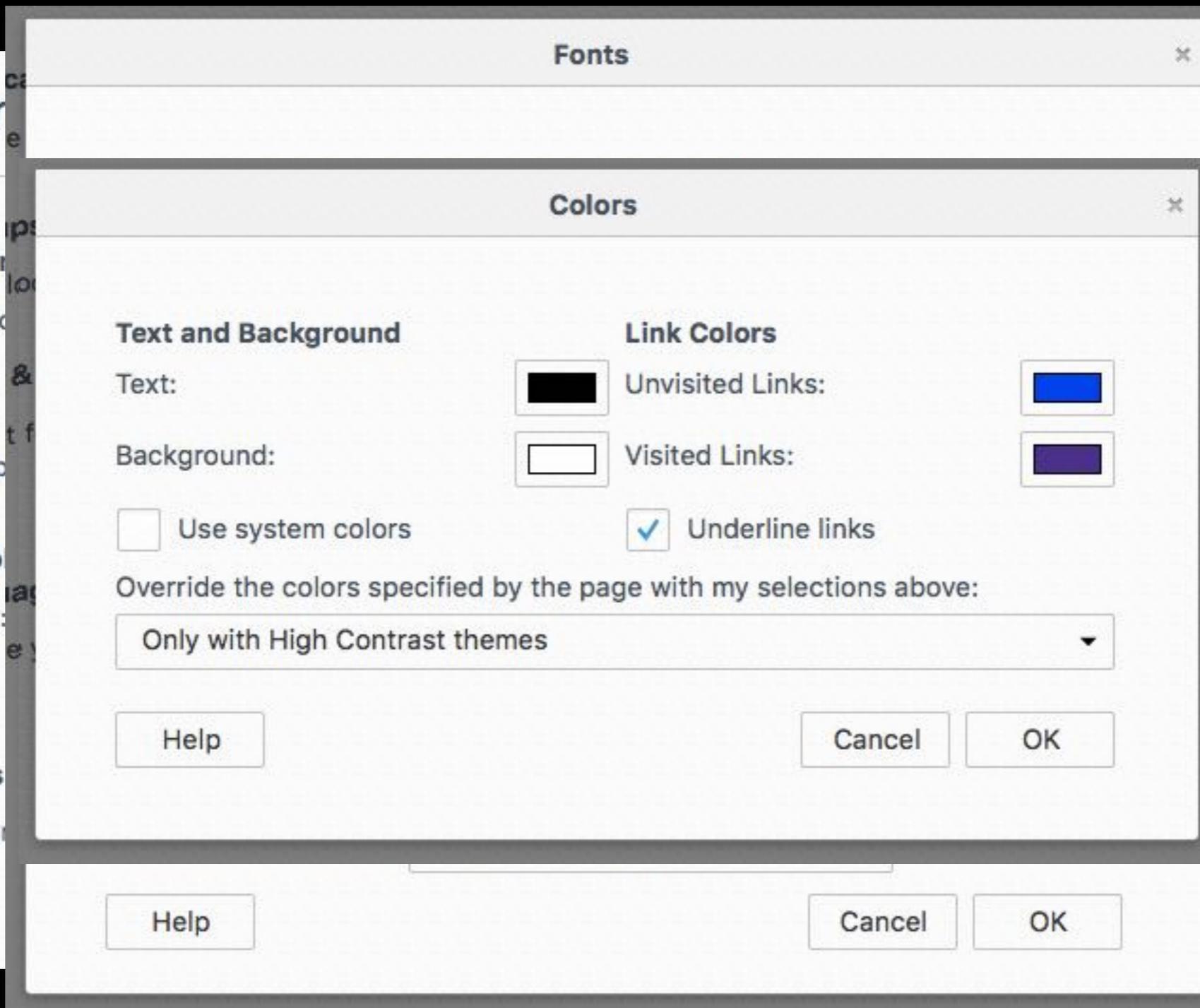


*Pinch Out by Julie Muckensturm from the Noun Project*

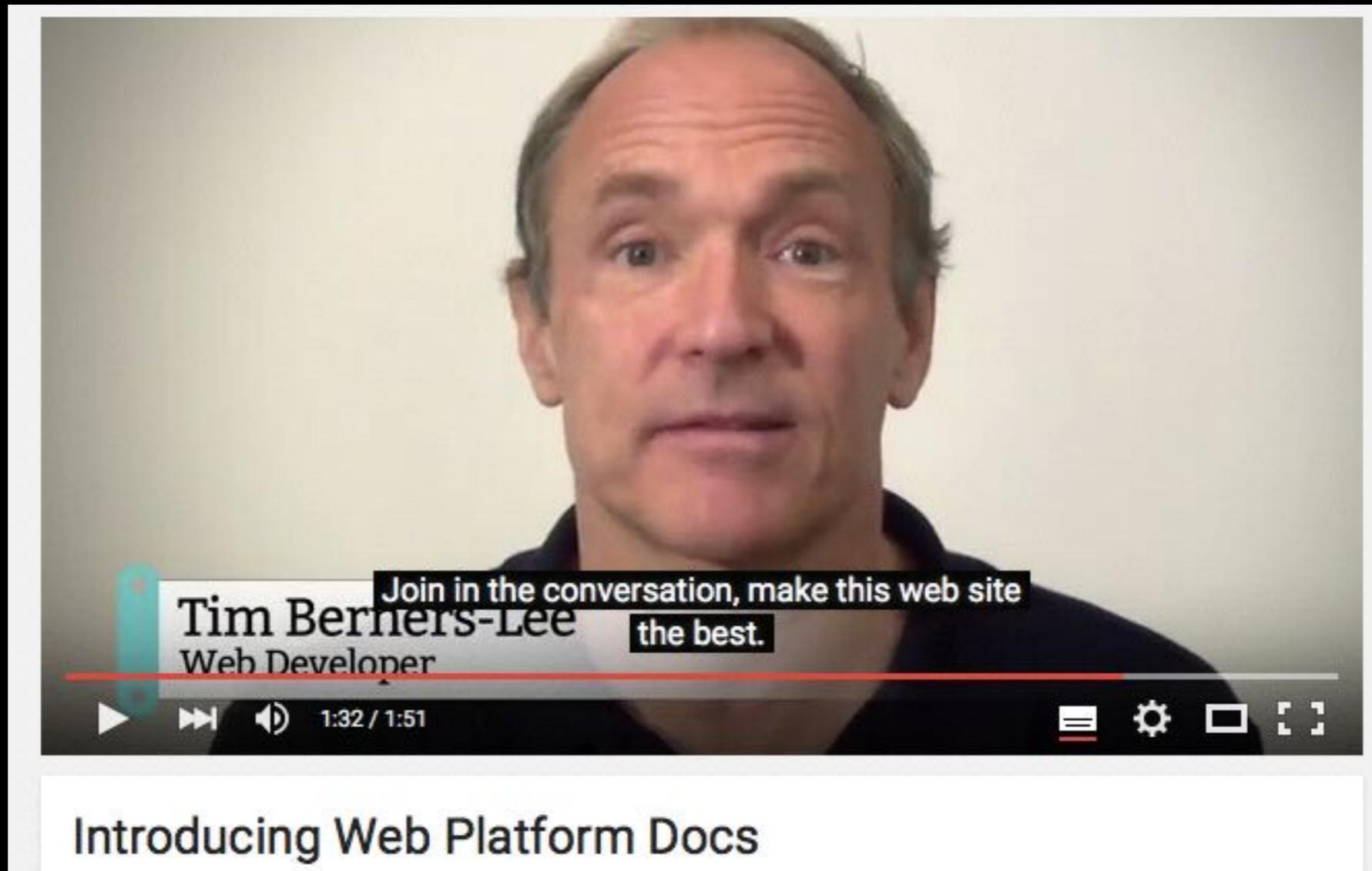




**BRAILLE**



# CUSTOMIZATIONS



Join in the conversation, make this web site the best.

Tim Berners-Lee  
Web Developer

1:32 / 1:51

Introducing Web Platform Docs

The image shows a YouTube video player. The video frame displays a man (Tim Berners-Lee) speaking. A black caption box with white text is overlaid on the video, reading "Join in the conversation, make this web site the best." Below the video frame, the video title "Introducing Web Platform Docs" is visible. The video player controls at the bottom show a play button, a progress bar at 1:32 / 1:51, and icons for volume, settings, and full screen.

**CAPTIONS**

**RESOURCE:**  
**HOW PEOPLE WITH  
DISABILITIES USE THE WEB**

[w3.org/WAI/intro/people-use-web/](http://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



Charging the phone: Connect the phone to a power outlet using the cable and power adaptor provided.

Alternative text for image: "Charging phone"

### ✔ Informative



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

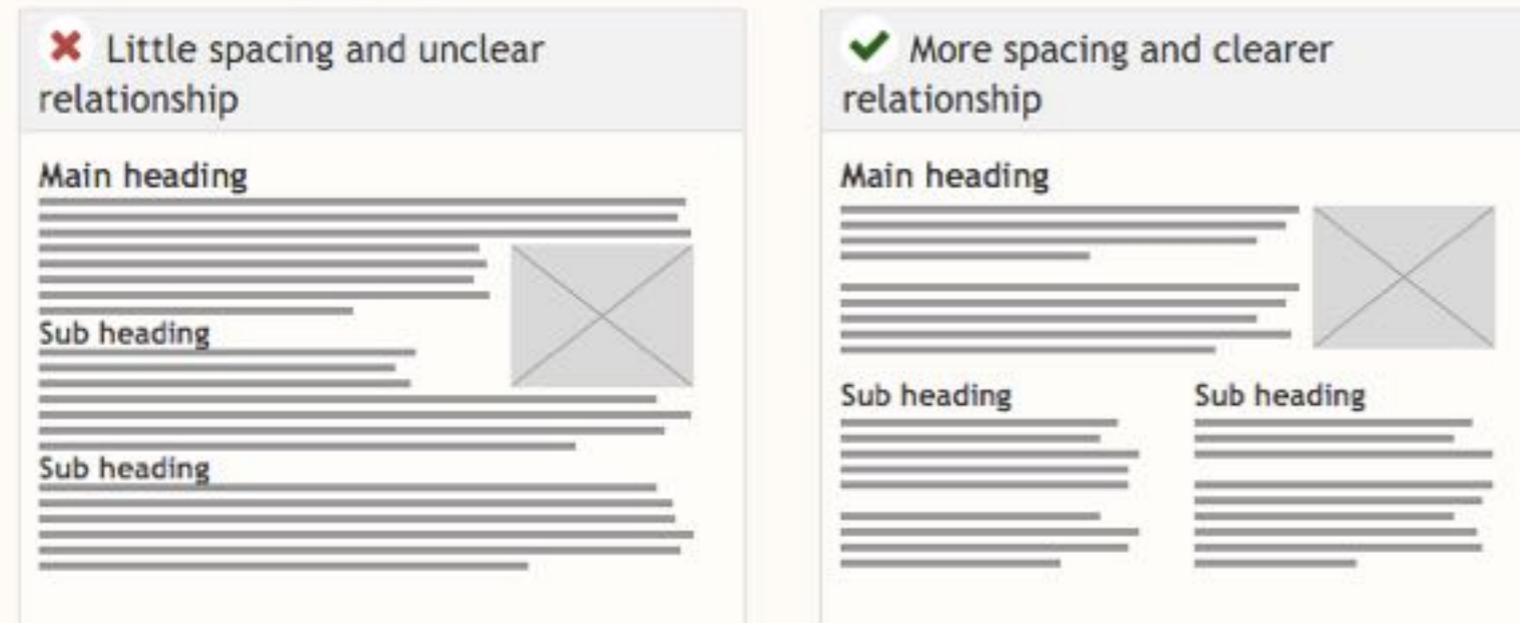
- WCAG
  - [Non-text Content 1.1.1 \(Understanding 1.1.1\)](#)
- Tutorial
  - [Images](#)
- User Story
  - [Describes the value of text alternatives to a blind user](#)

## 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

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.

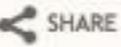
#### ✔ Sufficient

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.

### 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/](http://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/](http://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>
```



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](#).



Desktop version



**IMAGES**

```
<button>  
    
</button>
```

```
<button>  
    
</button>
```

**RESOURCE:**  
**IMAGE TUTORIAL**

[w3.org/WAI/tutorials/images/](http://w3.org/WAI/tutorials/images/)

<aside>

**RESOURCE:  
WEB ACCESSIBILITY  
TUTORIALS**

[w3.org/WAI/tutorials/](http://w3.org/WAI/tutorials/)

PAGE STRUCTURE (DRAFT)

MENUS (DRAFT)

**IMAGES**

**TABLES**

**FORMS**

CAROUSELS (DRAFT)

</aside>

**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/](http://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 AUTHORIZING 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 AUTHORIZING 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