



# PNSQC

OCTOBER 9-11 2023

## AMP IT UP:

### TRANSFORMING QUALITY

**Michael Larsen**

**A11y ADVOCACY: WHY WE NEED TO DO MORE THAN JUST TEST FOR ACCESSIBILITY**

# Being an Ally: Introduction

- **Navigating Modern Technology:**
  - Accessibility often overlooked.
  - More than a buzzword; a guiding compass.
- **Relevance of Accessibility:**
  - We all face challenges; accessibility will be personal.
  - Goes beyond compliance: Ensuring participation in the digital world for all.
- **Scope of Presentation:**
  - Focus on digital realm due to expertise.
  - Aim: Recognize diverse user abilities & importance of inclusive design.



- **Guidance & Framework:**
  - Not just textbook definitions.
  - Web Content Accessibility Guidelines (WCAG) as a guide.
- **Ten Principles of Accessibility:**
  - Introduced by Jeremy Sydik.
  - Beyond guidelines; they're core to advocacy.
- **Acknowledgments:**
  - Gratitude to Albert Gareev.
  - Introduction to the “HUMBLE A11y” approach: Building empathy & advocating for all.



# Accessibility vs. Inclusive Design: Navigating the Spectrum

## **Accessibility: The "Super Suit"**

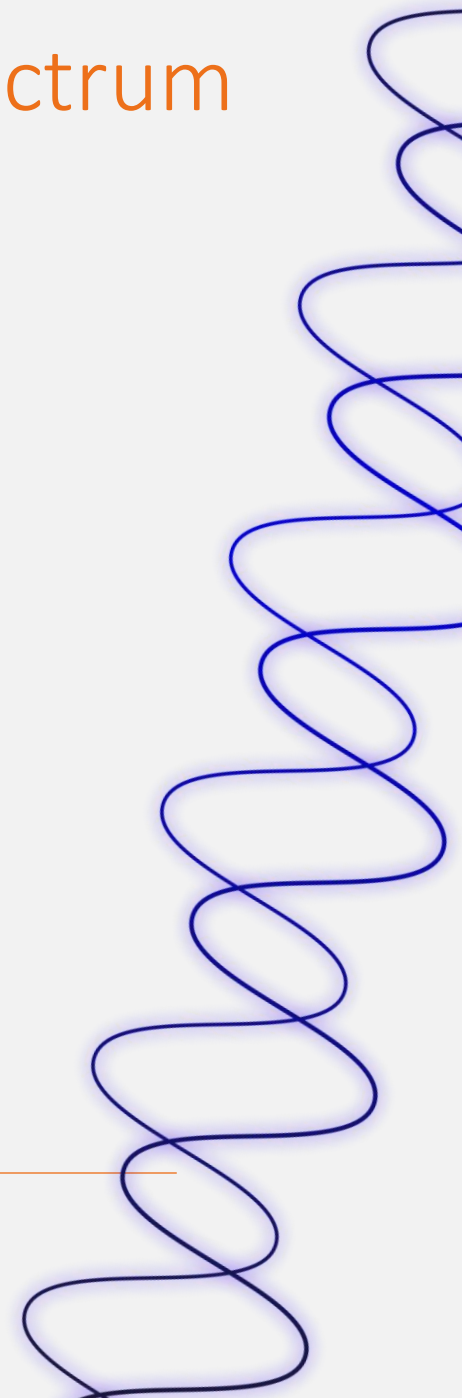
- Ensures everyone can engage with a product regardless of abilities.
- Leverages assistive technologies like:
  - Screen readers
  - Voice commands
  - Closed captioning
  - Assistive touch devices
  - Other tools aiding disabilities

## **Inclusive Design: The "Master Chef"**

- Crafts products/services to be user-friendly for all.
- Aims to include as many people as possible.
- Challenge: Deliver without relying heavily on tech or despite it.

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# What's in a Numeronym: A11y

## Origins of "A11y":

- Derived from "Accessibility" with 11 letters between 'A' and 'y'.
- Used on platforms like Twitter to save character space.

## Beyond Just Characters:

- Similar numeronyms:
  - Localization: "l10n"
  - Internationalization: "i18n"
  - Virtualization: "v12n"

More than shorthand: A symbol of the goal.



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- **Pronunciation & Meaning:**

- Often pronounced "A-eleven-y".
- Can be read as "ally", symbolizing support and partnership.

- **Behind the Code:**

- A reminder of the individual looking to interact with the content.
- Recognizes the diverse needs of users and our responsibility to cater to them.

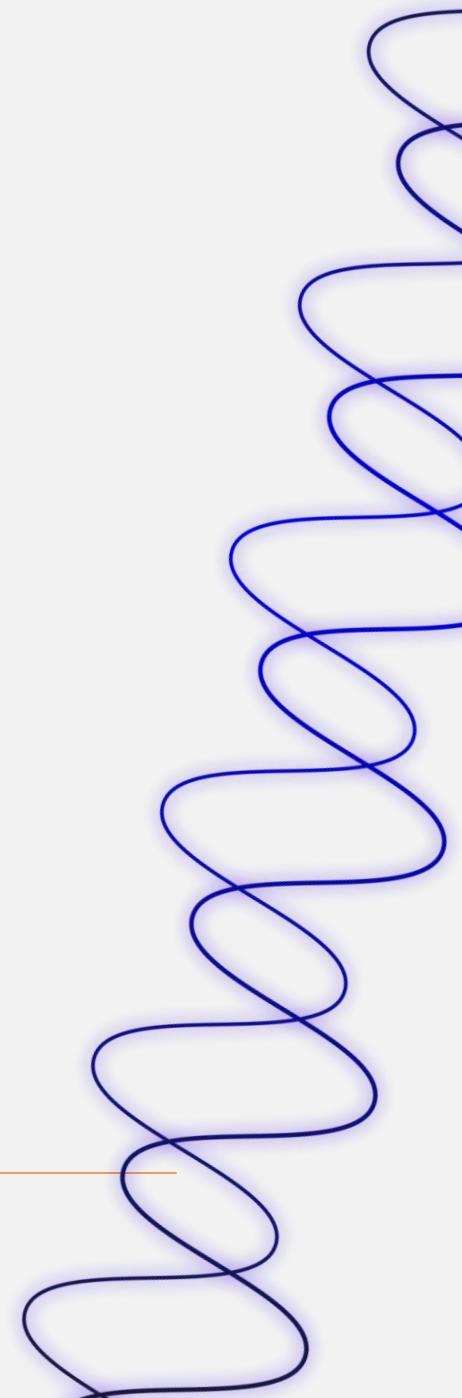
- **More than a Shorthand:**

- Evolved as a badge of honor for those advocating for accessibility.
- An invitation to champion and advocate for inclusive design.

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# The Spectrum of Disability

- Variability of Disability
  - Disabilities can range in severity and type.
  - It's not enough to just check accessibility boxes.



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# The Spectrum of Disability

## Primary (Chronic) Disabilities

Persistent challenges faced daily.

- Low vision
- Low hearing
- Limited mobility
- Profound cognitive disabilities

These are core to individuals' identity and everyday navigation.

## Situational Disabilities

Can affect anyone, anywhere, anytime.

- Taking a call at a loud concert
- Reading a phone in direct sunlight
- Being in a foreign country with an unfamiliar language

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# The Spectrum of Disability

## Key Takeaway

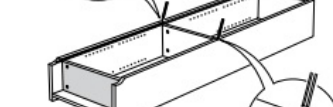
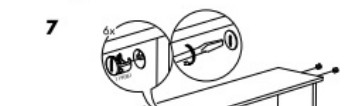
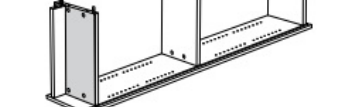
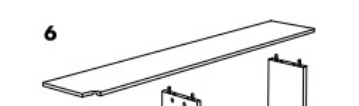
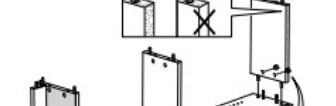
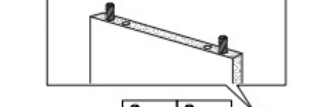
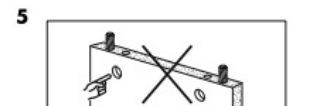
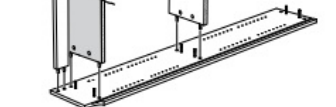
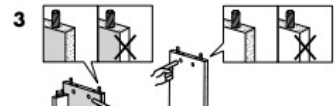
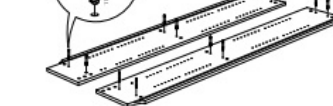
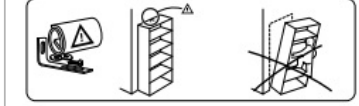
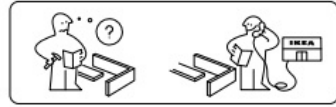
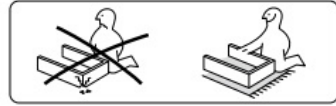
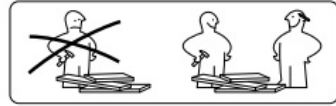
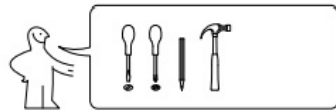
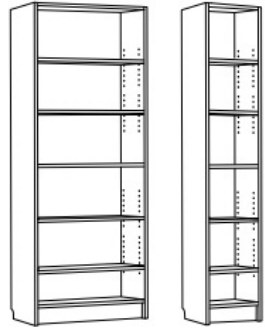
- Accessibility goes beyond just the obvious.
- Embrace the full spectrum of human experience.
- Design for both primary and situational challenges.
- Aim for experiences that work for everyone.



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# BILLY



# Ten Principles of Web/Mobile Accessibility

## **Avoid Assumptions**

- Avoid making assumptions about the physical, mental, and sensory abilities of your users whenever possible.

## **Technological Assumptions**

- Your users' technologies are capable of sending and receiving text. That's about all you'll ever be able to assume.

## **Respect User Ownership**

- Users' time and technology belong to them, not to us. You should never take control of either without a really good reason.

## **Text Alternatives**

- Provide good text alternatives for any non-text content.

## **Widely Available Technologies**

- Use widely available technologies to reach your audience.

## **Clear Communication**

- Use clear language to communicate your message.

## **Usability & Navigation**

- Make your sites usable, searchable, and navigable.

## **Semantic Design**

- Design your content for semantic meaning and maintain separation between content and presentation.

## **Progressive Enhancement**

- Progressively enhance your basic content by adding extra features. Allow it to degrade gracefully for users who can't or don't wish to use them.

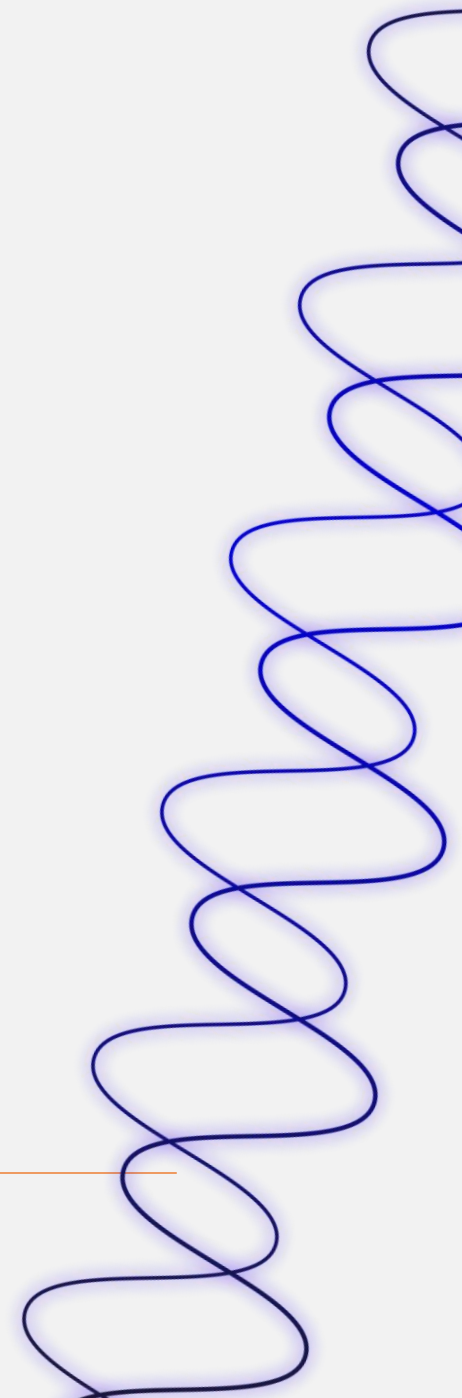
## **Adapt to New Technologies**

- As you encounter new web technologies, apply these same principles when making them accessible.

"Design Accessible Web Sites" by Jeremy Sydyk

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# The HUMBLE A11y

## **HUMBLE - More than just a word:**

- A roadmap to transformative thinking.
- Enhances interactions with technology from an inclusive perspective.

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M  
B  
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E

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# The HUMBLE A11y

## H for Humanize:

- Connect with the emotional side.
- Move away from the one-size-fits-all approach.
- Emphasize personal experiences and real people's challenges.

## U for Unlearn:

- Let go of device-specific habits.
- Challenge yourself: e.g., try navigating with only a keyboard and no mouse.

## M for Model:

- Create personas to represent different user situations.
- Dive deep into users' behaviors, pace, and mental states.

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# The HUMBLE A11y

## **B for Build:**

- Enhance your knowledge and testing capabilities.
- Equip yourself with the right scripts and tools.

## **L for Learn:**

- Become a detective.
- Identify barriers users face.
- Check the effectiveness of your understanding by stepping into their realities.

## **E for Experiment:**

- Empathize by walking in their shoes.
- Collaborate with development teams.
- Go beyond just the technical; focus on moments that truly matter in users' lives.

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# Understanding WCAG

## Global Agreement on Accessibility

- Not the only guideline: different countries, different standards.
- US Example: Section 508 of the Americans With Disabilities Act.
- WCAG: A global consensus on Accessibility and Inclusive Design.



## WCAG Core Principles

- **Perceivable:**
  - Present content in ways all senses can interact with.
- **Operable:**
  - Ensure effective navigation for all tools and devices.
- **Understandable:**
  - Ensure all interactions are clear to everyone.
- **Robust:**
  - Ensure content stability regardless of user technology.





## Levels of Compliance

- Three ranges: A, AA, and AAA.
- Allows developers/testers to assess and aim for desired compliance levels.
- AAA not always ideal: Sometimes too extreme for certain users.
- Importance of balance and judgment in achieving accessibility.



## Levels of Compliance

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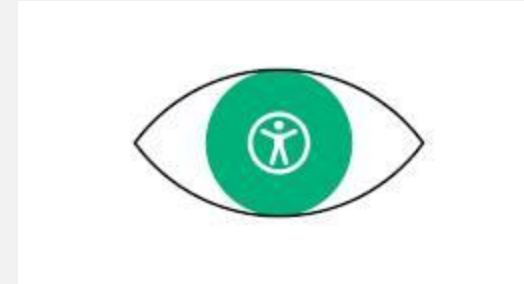
## Purpose of Multiple Levels

- Address varying user needs.
- Allow flexibility in achieving accessibility goals.
- Ensure broad coverage and avoid over-specificity.



# Tools of the Trade: Accessibility and Inclusive Design in Action

- Importance of evaluating Accessibility and Inclusive Design.
- Variety of tools available for developers and designers.



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## WAVE (Web Accessibility eValuation Tool):

- Ideal for accessibility beginners.
- Provides visual view of issues on a page, app, or interaction.
- Highlights potential remedies for identified issues.

The screenshot displays the WAVE interface for a login page. The top left shows the WAVE logo and 'powered by WebAIM'. Below this, there are controls for 'Styles: OFF' and 'ON'. The 'Summary' section provides a quick overview of the page's accessibility status:

Category	Count
Errors	7
Contrast Errors	10
Alerts	5
Features	3
Structural Elements	1
ARIA	4

Below the summary, there are tabs for 'Summary', 'Details', 'Reference', 'Order', 'Structure', and 'Contrast'. A 'View details' button is also present. The main content area shows a login form with fields for 'Username' (containing 'Admin') and 'Password' (masked with dots). A 'Login' button is visible. The page also includes a 'Forgot your password?' link and a footer with 'OrangeHRM OS 5.5' and '© 2005 - 2023 OrangeHRM, Inc. All rights reserved.' The interface is overlaid with various accessibility issue markers, such as red squares with an 'x' and green checkmarks, indicating specific areas of concern.

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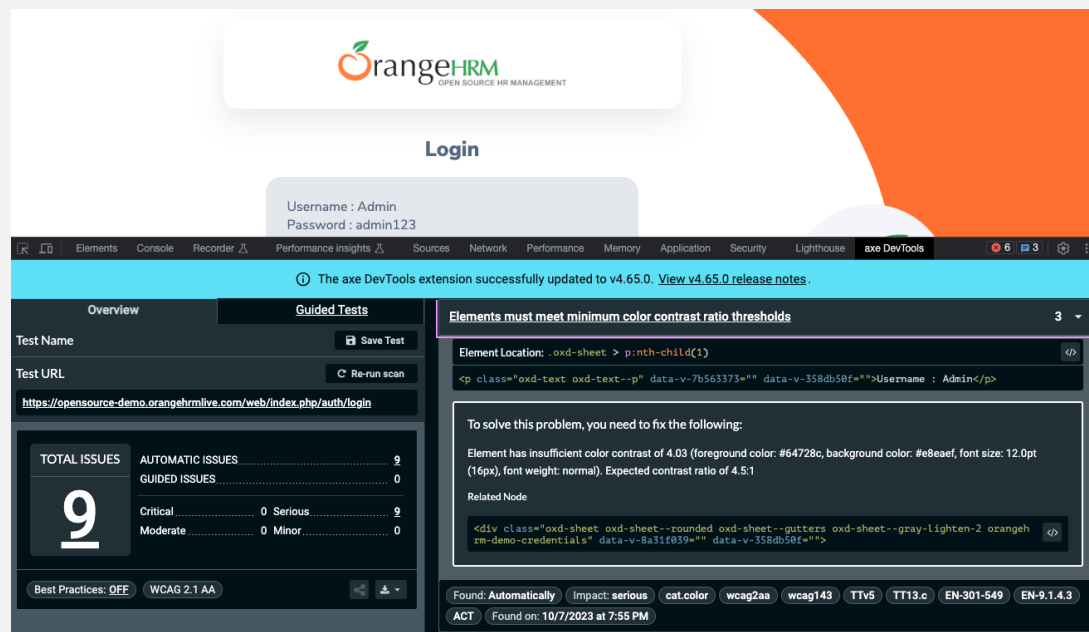
## Developer Tools for WCAG Compliance:

Gauge compliance with WCAG guidelines.

Examples:

- Color contrast evaluation.
- Semantic meaning examination.
- Overall WCAG compliance checks.

Pictured: aXe



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# Before and After

Accessible News Page Report  
**Before and After Demonstration**  
Improving a Web site using Web Content Accessibility Guidelines (WCAG) 2.0

W3C Web Accessibility initiative

Overview Home News Tickets Survey Template

Inaccessible: News Page Report  
Accessible: News Page Report

### Perceivable

Expand all rows Collapse all rows

Conformance of News Page to WCAG 2.0 - Perceivable

#	Title	Description	Result
+ 1.1	<u>Text Alternatives</u>	Provide text alternatives for any non-text content so that it can be changed into other forms people need, such as large print, braille, speech, symbols or simpler language.	✓
+ 1.2	<u>Time-based Media</u>	Provide alternatives for time-based media.	✓
+ 1.3	<u>Adaptable</u>	Create content that can be presented in different ways (for example simpler layout) without losing information or structure.	✓
+ 1.4	<u>Distinguishable</u>	Make it easier for users to see and hear content including separating foreground from background.	✓

Expand all rows Collapse all rows

### Operable

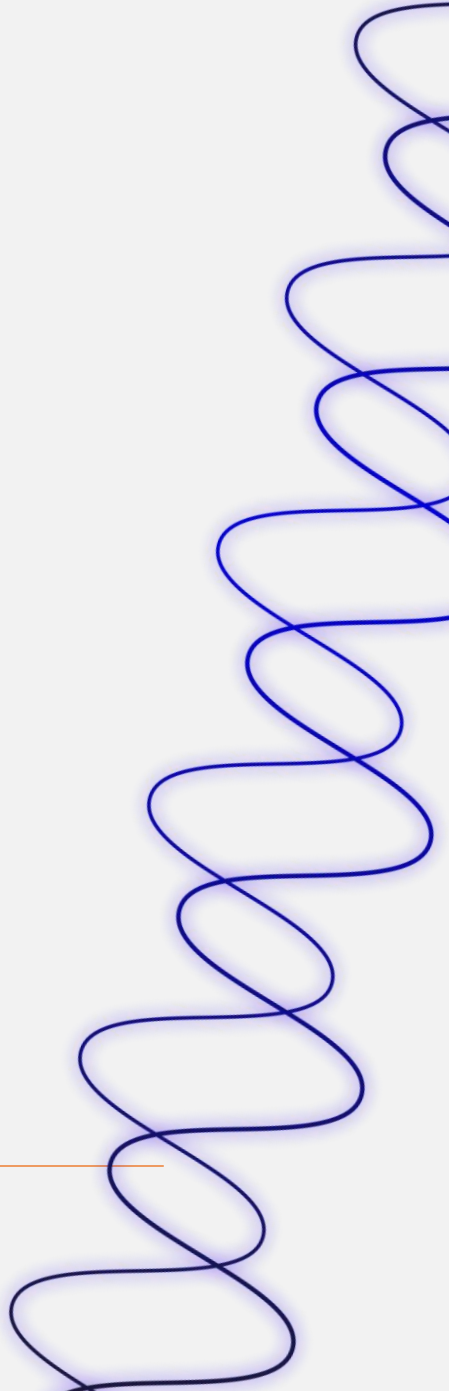
Expand all rows Collapse all rows

Conformance of News Page to WCAG 2.0 - Operable

#	Title	Description	Result
+ 2.1	<u>Keyboard Accessible</u>	Make all functionality available from a keyboard.	✓

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## Screen Readers:

- Understanding the experience of users with low vision.

|

## • Apple's VoiceOver:

- Free with MacOS.
- Hear the page content.

## • NonVisual Desktop Access (NVDA):

- Open source tool for various platforms.
- Provides audio feedback of on-screen content.

Accessible Tickets Page  
Before and After Demonstration  
Improving a Web site using Web Content Accessibility Guidelines (WCAG) 2.0

W3C Web Accessibility Initiative

Overview Home News Tickets Survey Template

Inaccessible: Tickets Page Report Show Annotations  
Accessible: Tickets Page # Report

CITYLIGHTS *your access to the city* [Quick Menu] [Go]

Traffic: Construction work on Main Road Today: Wednesday 14 October 2020, Sunny Spells, 23°C

HOME NEWS TICKETS SURVEY

### Citylights Ticket Offers

Citylights in partnership with guide enterprises are proud to offer specially priced tickets to see these great artists - see **Les Garçons & The Obelisks**

These special deals are exclusive to Citylights and can only be purchased by calling the ticket hotline.

Buy tickets by phoning the Main line - get your tickets now! (1) 209 88743 / (1) 209 M-U-S-I-C

	Front Seats	Rear Seats	Down Circle	Special Tables
<b>Obelisks - Monkey, Monkey</b>	\$20.90	\$20.90	\$20.90	\$20.90
<b>Les Garçons de la Plage</b>	\$20.90	\$27.90	\$30.90	\$33.90
<b>Concession</b>				
<b>Obelisks - Monkey, Monkey</b>	\$20.90	\$20.90	\$20.90	\$20.90
<b>Les Garçons de la Plage</b>	\$20.90	\$27.90	\$30.90	\$33.90
<b>Group (5 or more)</b>				
<b>Obelisks - Monkey, Monkey</b>	\$14.90	\$14.90	\$14.90	\$14.90
<b>Les Garçons de la Plage</b>	\$14.90	\$20.90	\$22.90	\$23.90

× These special deals are exclusive to Citylights and can only be purchased by calling the ticket hotline.

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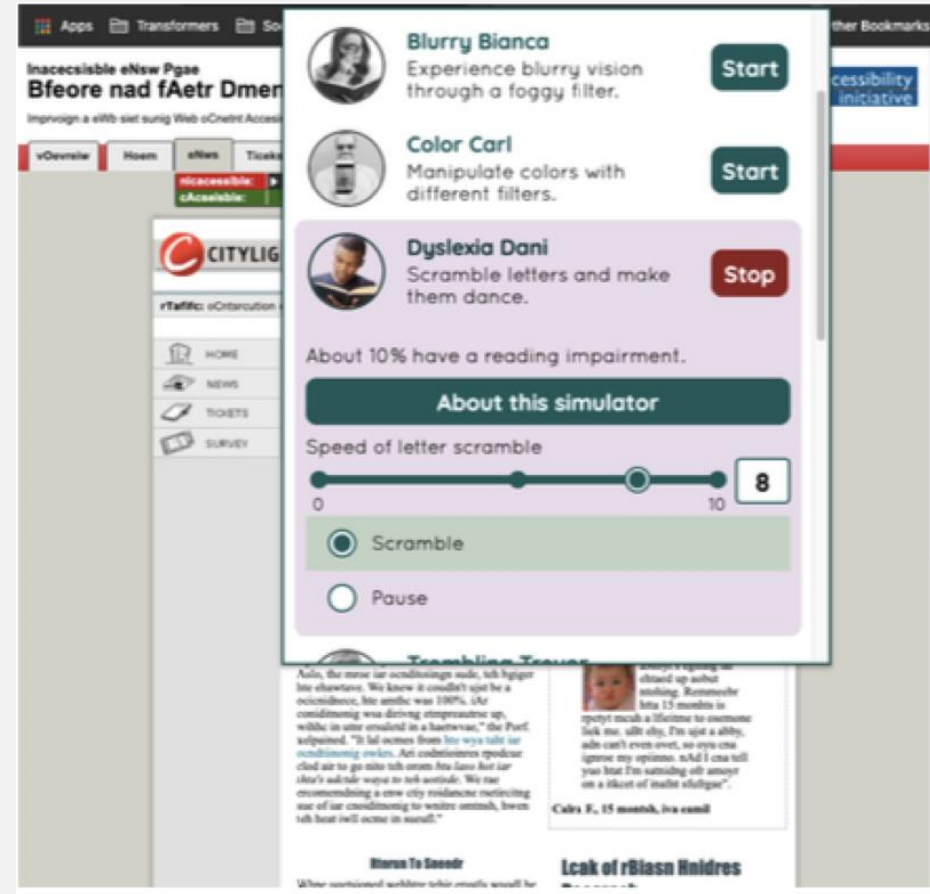
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## Color-Blindness Considerations:

- Many types of color blindness exist.
- Emphasis on:
  - Effective color contrast.
  - Proper hue dynamics.
  - Ensuring text and images stand out against backgrounds.

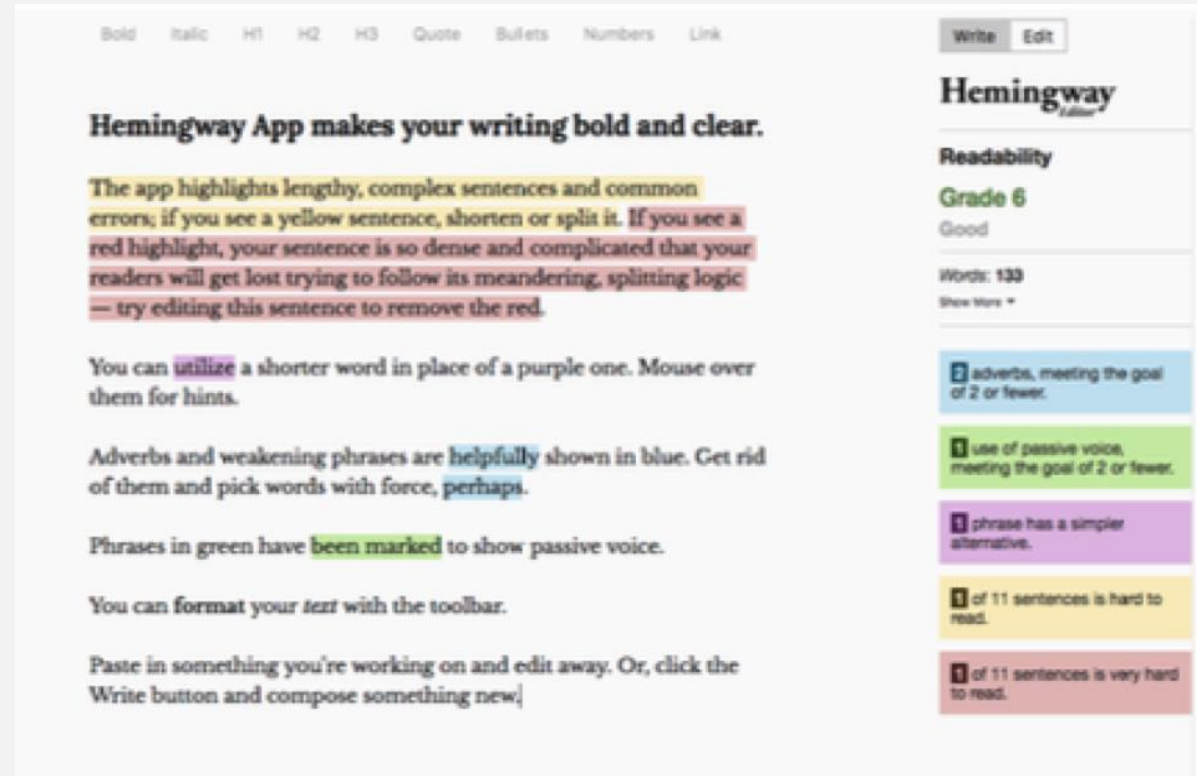


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## Hemingway App for Cognitive Disabilities:

- Analyzes text readability.
- Helpful for:
  - People with dyslexia.
  - General text readability improvement.



The screenshot displays the Hemingway App interface. At the top, there is a toolbar with options: Bold, Italic, H1, H2, H3, Quote, Bullets, Numbers, and Link. Below the toolbar, the text reads: "Hemingway App makes your writing bold and clear." The main text is: "The app highlights lengthy, complex sentences and common errors; if you see a yellow sentence, shorten or split it. If you see a red highlight, your sentence is so dense and complicated that your readers will get lost trying to follow its meandering, splitting logic — try editing this sentence to remove the red." The text is annotated with highlights: yellow for the first sentence, red for the second, purple for "utilize", and blue for "helpfully" and "perhaps". Below the text, there are instructions: "You can utilize a shorter word in place of a purple one. Mouse over them for hints." and "Adverbs and weakening phrases are helpfully shown in blue. Get rid of them and pick words with force, perhaps." Further down, it says: "Phrases in green have been marked to show passive voice." and "You can format your text with the toolbar." At the bottom, it says: "Paste in something you're working on and edit away. Or, click the Write button and compose something new." On the right side, there is a sidebar with a "Write" button and an "Edit" button. Below that, the "Hemingway" logo is shown. The "Readability" section indicates a "Grade 6" level and a "Good" rating. It also shows "Words: 133" and a "Show More" link. Below this, there are five colored boxes with feedback: a blue box for "1 adverbs, meeting the goal of 2 or fewer.", a green box for "1 use of passive voice, meeting the goal of 2 or fewer.", a purple box for "1 phrase has a simpler alternative.", a yellow box for "1 of 11 sentences is hard to read.", and a red box for "1 of 11 sentences is very hard to read."

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# Thinking Inclusively: A Grab Bag of Ideas

## **Image Descriptions:**

- Use meaningful alt tags for images.
- Use WAI alt decision tree for repetitive images.

## **Navigation:**

- Provide a skip link to bypass navigation.
- Use "lang" attribute for translation.

## **Buttons:**

- Make scalable buttons.
- Avoid tying them to literal images.

## **Universal Imagery:**

- Use universally understood images (e.g., smiley faces).

## **Keyboard Accessibility:**

- Limit use of div tags in focus areas.

## **Content Formats:**

- Offer video closed captioning and full transcripts.
- Allow multiple date entry methods.

## **Zoom and Scale:**

- Allow Pinch-to-Zoom.
- Ensure touch areas are sufficiently large.

## **Fonts:**

- Promote proportional fonts.

## **Readable Content:**

- Write simply.
- Use space to improve readability.

## **Contrast:**

- Adhere to WCAG contrast recommendations.
- Advocate for high contrast designs.

## **Print Media:**

- Ensure web content is printable.

## **Simplicity:**

- Maintain simple and user-friendly interfaces.

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# Accessibility and Inclusive Design: Taking the Helm

## **Design Proactively:**

- Spotlight on design decisions
- Be early and impactful with inclusivity

## **The Momentum Challenge:**

- Changing established designs can be difficult
- Comparing it to steering a ship in a storm

## **The Power of Early Adoption:**

- Using accessibility and inclusive design from the start
- Gives everyone a voice and usability

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# Accessibility and Inclusive Design: Taking the Helm

## **Embracing Diversity:**

- Celebrate what makes each of us unique
- Design with empathy and understanding

## **Being an A11y:**

- Embrace accessibility advocacy
- Stand for inclusive designs from day one

## **The Personal Impact:**

The beneficiary of foresight can be anyone  
It could be you in the future

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**AMP IT UP:**

**TRANSFORMING QUALITY**



**THANK YOU**

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