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Accessibility 101

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User Experience Designer
User Centered Innovation

Topics

- Accessibility introduction
- Historical & legal requirements
- Types of disability
- Accessibility guidelines
- Case studies
- What can we do?

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Curb Ramps

Curb ramps provide safe and easy access to sidewalks and streets.

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Bus Lifts

Bus lifts enable people to board buses with ease.

Braille

Braille is often used on elevator buttons.

Automatic doors

Improve building access:

- Wheelchairs,
- Scooters or
- Walking aids
- Parents pushing strollers
- Pushing shopping carts
- Carrying items

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Not all disabilities are recognizable

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Disabilities are temporal

	Permanent	Temporary	Situational
Touch	One arm	Arm injury	New parent
See	Blind	Cataract	Distracted driver

	Permanent	Temporary	Situational
Hear	Deaf	Ear infection	Bartender
Speak	Non-verbal	Laryngitis	Heavy accent

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Americans with Disabilities Act - 1990

The **ADA** prohibits discrimination against individuals with disabilities for public and private entities.

Title III of the ADA encompass healthcare services provided by private entities.

ADA.gov
U.S. Department of Justice
Civil Rights Division

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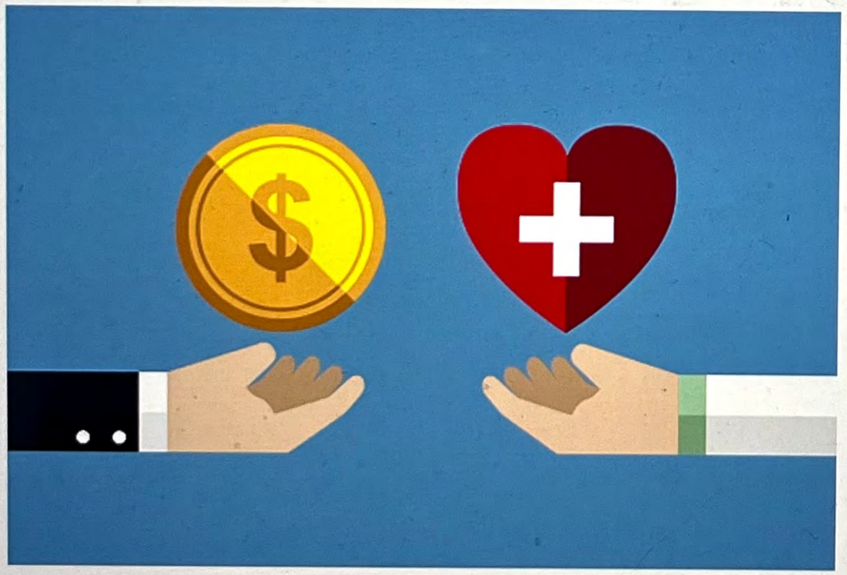
Rehabilitation Act

Section 504: Prohibits discrimination by federal entities that receiving federal funds (1973).

Section 508: Requires **information technology** be accessible to people with disabilities, including employees and members of the public (2000).



GSA Section508.gov
Buy. Build. Be Accessible.

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Affordable Care Act 2010

Section 1557, federally funded health-care programs are required to make all digital systems accessible for people with disabilities.

U.S. Department of
Health and Human Services
Enhancing the health and well-being of all Americans

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Evaluation and Compliance

Government agencies often evaluate healthcare software. This evaluation may involve conducting accessibility audits, testing the software with assistive technologies, or seeking certification from recognized accessibility experts.

CMS.gov

U.S. Department of
Health and Human Services
Enhancing the health and well-being of all Americans

GAO

Medicaid

FCC

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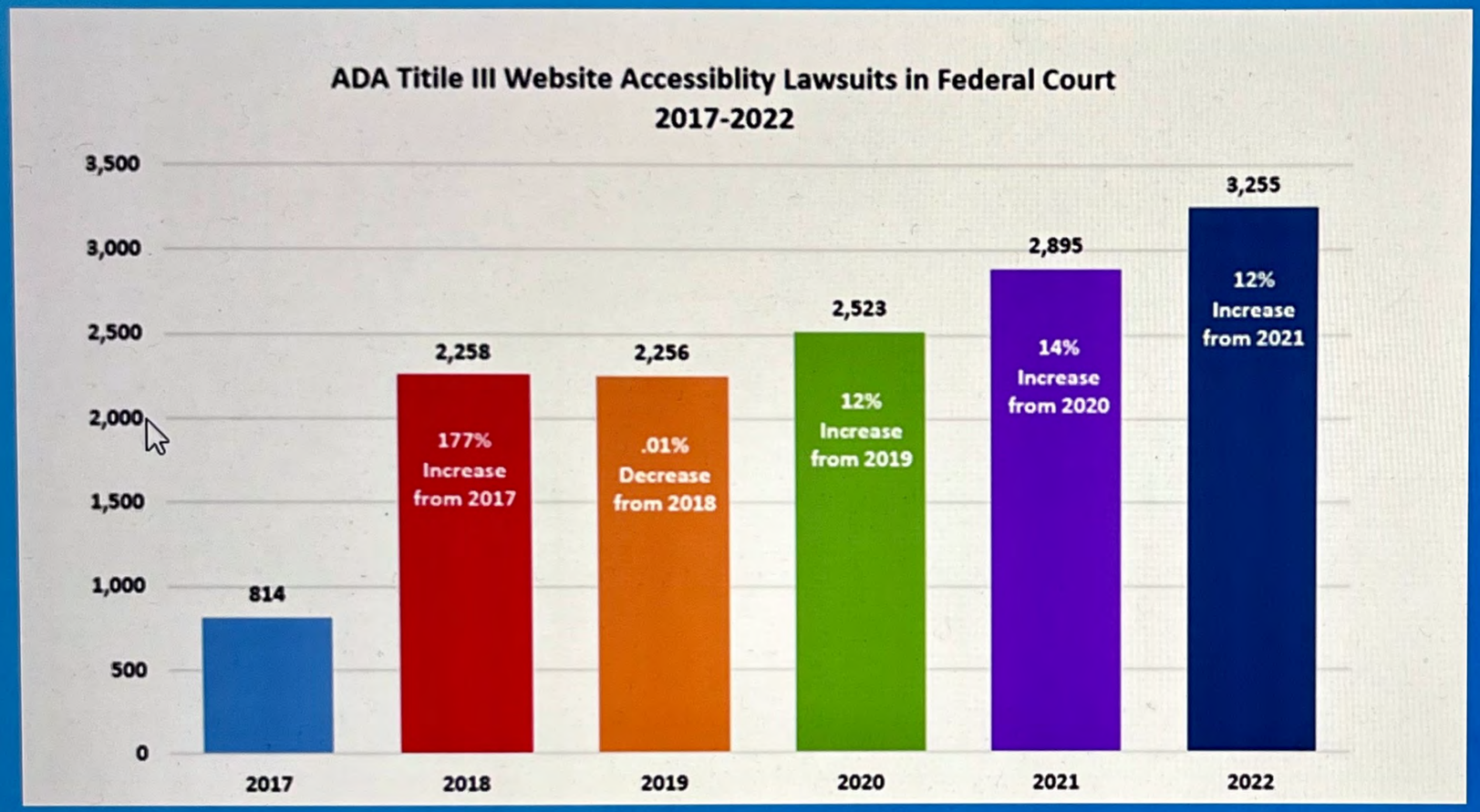
Recent Lawsuits



FORBES > LEADERSHIP > DIVERSITY, EQUITY & INCLUSION

Website Accessibility Lawsuits Rising Exponentially In 2023 According To Latest Data

Gus Alexiou Contributor

I write about accessibility, inclusion and social justice.

Follow

0

Jun 30, 2023, 07:20am EDT

$1M National Federation of the Blind v. Target Corporation (2018): The National Federation of the Blind filed a lawsuit against Target Corporation of their website's inaccessibility to the blind.

Access Now v. FedEx Corporation (2016): Access Now, Inc., filed a lawsuit against FedEx, alleging that the company's website and mobile applications were inaccessible to individuals with disabilities.

National Association of the Deaf v. Harvard (2015): The association alleged Harvard of violating U.S. accessibility laws by not providing accurate and comprehensive captioning for online course materials.

National Federation of the Blind v. HRB Digital LLC (2014): The National Federation of the Blind (NFB) filed a lawsuit against H&R Block for the inaccessibility of H&R Block's website and tax filing software.

Access Now, Inc. v. Haven Behavioral Healthcare, Inc. (2013): Access Now, Inc., a disability rights advocacy organization, filed a lawsuit against Haven Behavioral Healthcare, Inc., alleging that the company's websites were inaccessible to individuals with visual impairments.

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Accessibility Initiatives

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Accessibility Initiatives

There are several initiatives with the goal of making online access accessible to people with disabilities.

A11Y Project

World Wide Web Consortium (W3C)

Web Accessibility Initiative (WAI)

Web Content Accessibility Guidelines (WCAG)

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The A11Y Project

a11y stands for

A C C E S S I B I L I T Y

11 characters

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World Wide Web Consortium (W3C)

The World Wide Web Consortium (W3C) develops **standards and guidelines** to help everyone build a web based on the principles of accessibility, privacy and security.

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Web Accessibility Initiative (WAI)

Web Accessibility Initiative (WAI) is the overarching initiative by the W3C to promote web accessibility.

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WCAG 2.1

Web Content Accessibility Guidelines

The Web Content Accessibility Guidelines (WCAG) are a set of recommendations for making web content more accessible to people with disabilities.

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The Evolution of WCAG

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Web Content Accessibility Guidelines

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WCAG Version 1.0 - 1999

Guideline 1: Provide equivalent alternatives to visual content
Guideline 2: Don't rely on color alone
Guideline 3: Use markup and style sheets, and do so properly
Guideline 4: Clarify natural language usage
Guideline 5: Create tables that transform gracefully
Guideline 6: Ensure that pages transform gracefully
Guideline 7: Ensure user control of time sensitive changes
Guideline 8: Ensure accessibility of embedded user interfaces
Guideline 9: Design for device independence
Guideline 10: User interim solutions
Guideline 11: Use W3C technologies and guidelines
Guideline 12: Provide context and orientation information
Guideline 13: Provide clear navigation mechanisms
Guideline 14: Ensure that documents are clear and simple

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WCAG 2.1 Guidelines

4 Principles

Perceivable	People must be able to find your content.
Operable	Website can be accessed using only the keyboard.
Understandable	Content is readable and easy to find.
Robust	Must work with current and future technology.

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WCAG Guidelines

4 Principles	13 Guidelines	78 Success Criteria
Perceivable	1.1 Text Alternative 1.2 Time-based Media 1.3 Adaptable 1.4 Distinguishable	78 testable success criteria.
Operable	2.1 Keyboard Accessible 2.2 Enough Time 2.3 Seizures and Physical Reactions 2.4 Navigable 2.5 Input Modalities	
Understandable	3.1 Readable 3.2 Predictable 3.3 Input Assistance	
Robust	4.1 Compatible	

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WCAG in action: 2 examples

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Example 1: Color Contrast

4 Principles	13 Guidelines	Success Criteria
Perceivable	1.1 Text Alternative 1.2 Time-based Media 1.3 Adaptable **1.4 Distinguishable**	1.4.1 Use of Color 1.4.2 Audio Control **1.4.3 Contrast** 1.4.4 Resize Text 1.4.5 Images of Text
Operable	2.1 Keyboard Accessible 2.2 Enough Time 2.3 Seizures and Physical Reactions 2.4 Navigable 2.5 Input Modalities	
Understandable	3.1 Readable 3.2 Predictable 3.3 Input Assistance	
Robust	4.1 Compatible	

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Color Contrast

People with moderately low vision or impaired contrast perception

White on Blue

Black on White

White on Cyan

White on Orange

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Color Blindness

Approximately 1 in 12 men.

Approximately 1 in 200 women.

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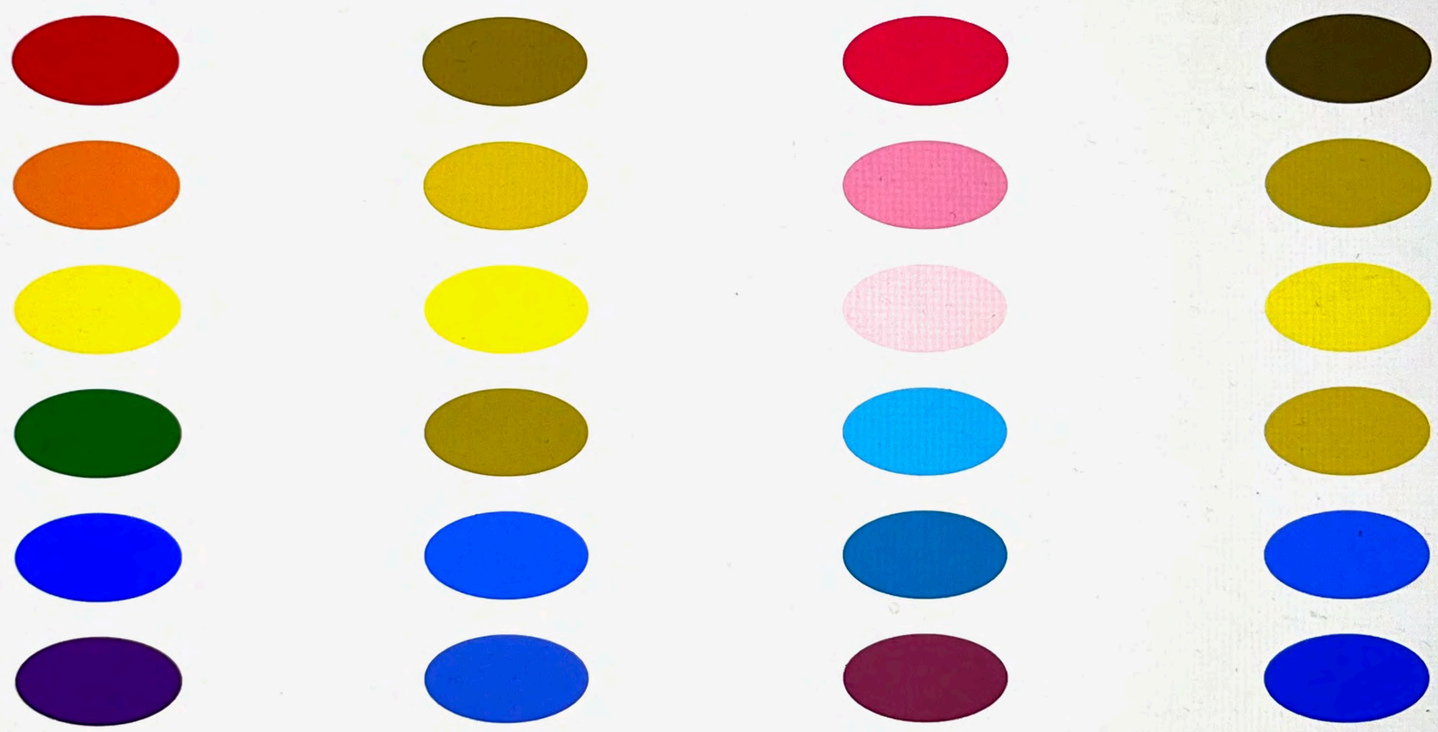
Color Blindness

People with moderate to strong color vision deficiency.



Normal vision | Red/green Deuteranopia | Blue/green Tritanopia | Red/green Protanopia

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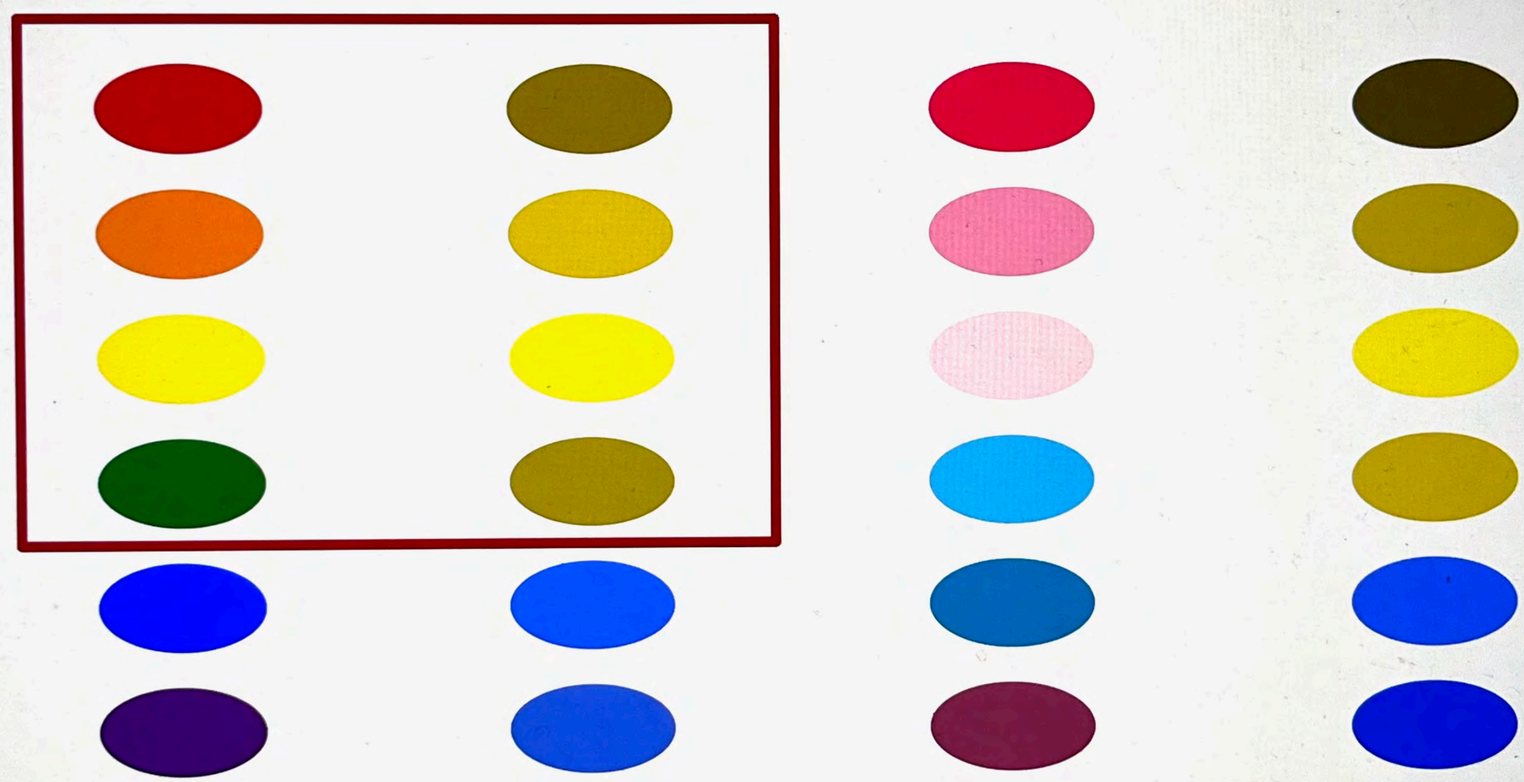
Color Blindness

People with moderate to strong color vision deficiency.



Normal vision | **Red/green Deuteranopia** | Blue/green Tritanopia | Red/green Protanopia

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Workbench – Message Search

Message status for people with low color vision deficiency

TYPE	NewRx
STATUS	Sent
DATE & TIME	11/26/2023 10:16:16 PM (PST)

TYPE	NewRx
STATUS	Sent
DATE & TIME	11/26/2023 10:16:16 PM (PST)

TYPE	NewRx
STATUS	Error
DATE & TIME	11/26/2023 10:16:16 PM (PST)

TYPE	NewRx
STATUS	Error
DATE & TIME	11/26/2023 10:16:16 PM (PST)

TYPE	NewRx
STATUS	Mailboxed
DATE & TIME	11/26/2023 10:16:12 PM (PST)

TYPE	NewRx
STATUS	Mailboxed
DATE & TIME	11/26/2023 10:16:12 PM (PST)

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Example 2: Text Resizing

4 Principles	13 Guidelines	78 Success Criteria
Perceivable	1.1 Text Alternative 1.2 Time-based Media 1.3 Adaptable 1.4 Distinguishable	2.4.1 Use of Color 2.4.2 Audio Control 2.4.3 Contrast **2.4.4 Resize Text** 2.4.5 Images of Text
Operable	2.1 Keyboard Accessible 2.2 Enough Time 2.3 Seizures and Physical Reactions **2.4 Navigable** 2.5 Input Modalities	
Understandable	3.1 Readable 3.2 Predictable 3.3 Input Assistance	
Robust	4.1 Compatible	

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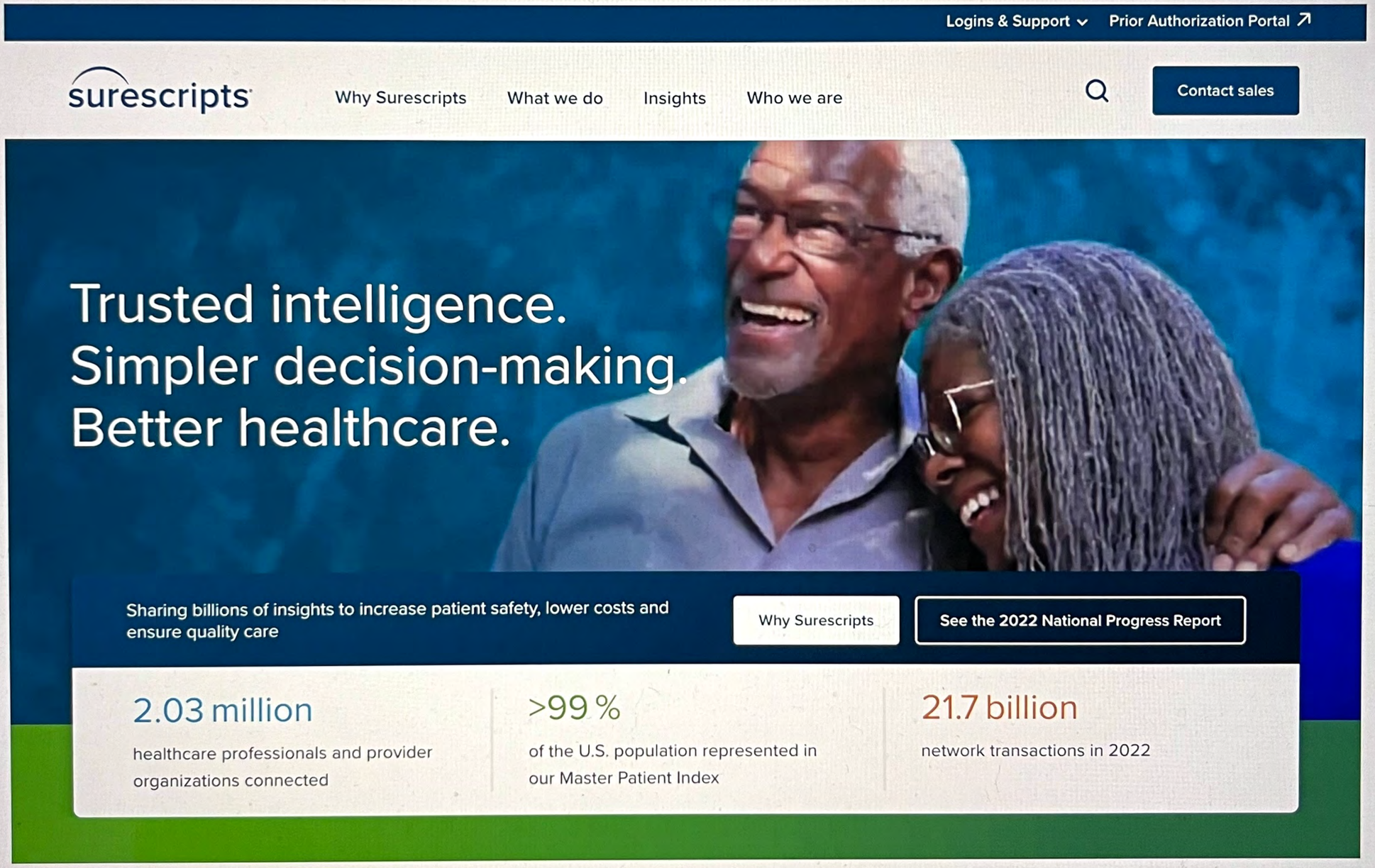
Example: Resize Text



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Levels of Conformance

Overview of Compliance Level

A
Must Have

This is the most basic level of compliance in WCAG.

AA
Should Have

This is the most desired level of guidelines having good readable text along with good contrast ratio and support for interface zoom.

AAA
Good To Have

This is the highest level of accessibility requires sign language for audio content which is a bit difficult in all cases to put in place.

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WCAG Guidelines

4 Principles	13 Guidelines	Level A	Level AA	Level AAA
Perceivable	1.1 Text Alternative	1.1.1		
	1.2 Time-based Media	1.2.1 - 1.2.3	1.2.4 - 1.2.5	1.2.6 - 1.2.9
	1.3 Adaptable	1.3.1 - 1.3.3		
	1.4 Distinguishable	1.4.1 - 1.4.2	1.4.3 – 1.4.5	1.4.6 - 1.4.9
Operable	2.1 Keyboard Accessible	2.1.1 - 2.1.2		2.1.3
	2.2 Enough Time	2.2.1 - 2.2.2		2.2.3 - 2.2.5
	2.3 Seizures and Physical Reactions	2.3.1		2.3.2
	2.4 Navigable	2.4.1 - 2.4.4	2.4.5 - 2.4.7	2.4.8 - 2.4.10
	2.5 Input Modalities	2.5.1		
Understandable	3.1 Readable	3.1.1	3.1.2	3.1.3 - 3.1.6
	3.2 Predictable	3.2.1 - 3.2.2	3.2.3 - 3.2.4	3.2.1 - 3.2.2
	3.3 Input Assistance	3.3.1 - 3.3.2	3.3.3 - 3.3.4	3.3.5 - 3.3.6
Robust	4.1 Compatible	4.1.1 - 4.1.2		

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Case Study

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Case Study: Specialty Medication Gateway

26 Pass

4 Issues found

8 Failures

Guidelines		
	1.1	**Text Alternatives**
	1.1.1	Non-text Content Level A
	1.2	**Time-based Media**
	1.2.1	Audio-only and Video-only (Prerecorded) Level A
	1.2.2	Captions (Prerecorded) Level A
	1.2.3	Audio Description or Media Alternative (Prerecorded) Level A
	1.2.4	Captions (Live) Level AA
	1.2.5	Audio Description (Prerecorded) Level AA
	1.3	**Adaptable**
	1.3.1	Info and Relationships Level A
	1.3.2	Meaningful Sequence Level A
	1.3.3	Sensory Characteristics Level A
	1.3.4	Orientation Level AA
	1.3.5	Identify Input Purpose Level AA
	1.4	**Distinguishable**
	1.4.1	Use of Color Level A
	1.4.2	Audio Control Level A
	1.4.3	Contrast (Minimum) Level AA
	1.4.4	Resize text Level AA
	1.4.5	Images of Text Level AA

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Case Study: Specialty Medication Gateway

High Impact / High Effort

Guideline	Effort
It is recommended to not use JavaScript event handlers attached to elements (for example, a table row) to emulate links. (1.3.1)	High
Ensure that text can be resized without assistive technology up to 200 percent without any loss of content or functionality. (1.4.4)	High
All functionality of the content is operable through a keyboard. (2.1.1)	High
Ensure that users can navigate sequentially through content in a logical order. (2.4.3)	High

High Impact / Low Effort

Guideline	Effort
Use alternative text for non-text content (1.1.1).	Low
Use the aria-invalid attribute set to "true" to indicate invalid fields (3.3.1).	Low
Ensure that each Web page has a descriptive title (2.4.2).	Low

Low Impact / Low Effort

Guideline	Effort
Ensuring that a contrast ratio of at least 4.5:1 exists between text (and images of text) and background behind the text. (1.4.3)	Low
Add bypass links to the main content area, which allow users to skip over repetitive content and navigate directly to the main content. (2.4.1)	Low
Ensure that all clickable links and interactive elements are accessible via keyboard. (2.4.7)	Low

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Case Study: Prior Authorization Portal

29 Pass

6 Issues found

11 Failures

Guidelines		
	1.1	**Text Alternatives**
	1.1.1	Non-text Content Level A
	1.2	**Time-based Media**
	1.2.1	Audio-only and Video-only (Prerecorded) Level A
	1.2.2	Captions (Prerecorded) Level A
	1.2.3	Audio Description or Media Alternative (Prerecorded) Level A
	1.2.4	Captions (Live) Level AA
	1.2.5	Audio Description (Prerecorded) Level AA
	1.3	**Adaptable**
	1.3.1	Info and Relationships Level A
	1.3.2	Meaningful Sequence Level A
	1.3.3	Sensory Characteristics Level A
	1.3.4	Orientation Level AA
	1.3.5	Identify Input Purpose Level AA
	1.4	**Distinguishable**
	1.4.1	Use of Color Level A
	1.4.2	Audio Control Level A
	1.4.3	Contrast (Minimum) Level AA
	1.4.4	Resize text Level AA
	1.4.5	Images of Text Level AA

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Case Study: Provider Portal

High Impact / High Effort

Guideline	Effort
	High
	High
	High
	High

High Impact / Low Effort

Guideline	Effort
	Low
	Low
	Low

Low Impact / Low Effort

Guideline	Effort
	Low
	Low
	Low

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Recommendations

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Surescripts Accessibility Policy

An accessibility policy is a **formal document** that outlines an organization's commitment to ensuring that its digital products, services, and facilities are accessible and usable by individuals with disabilities.

It includes the organization's goals, strategies, and actions for achieving and maintaining accessibility, reflecting both legal requirements and ethical principles of inclusivity.

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Surescripts Accessibility Policy

Why it's important?

Legal Compliance

Inclusivity

Ethical Responsibility

Customer Satisfaction

Competitive Advantage

Reduced Support Costs

Alignment with Industry Standards

Internal Guidance

Continuous Improvement

Public Relations

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Incorporate accessibility into UI designs.

- Prioritize accessibility and inclusion at the beginning.
- Incorporate accessibility into UI designs.
- Update the Surescripts Design System (GLUE) to be accessible.
- Develop semantically correct, organized, and valid HTML.
- Organize content in a logical manner with clearly defined sections, users can more easily scan pages for relevant information and quickly identify what they're looking for.

- Accessibility ensures products are being empathetic and inclusive of all abilities including limitations such as color blindness and low vision.

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Promote Inclusive Design Culture

Champion Diversity

Accessible design aligns with our Valued Behaviors.

Education and Training

Training sessions for product and development and teams.

Inclusive Design Culture

Foster a culture of inclusive design and development within Suresc

Accessibility Testing

Integrate accessibility testing into the QA process.

Accessibility Audits

Accessibility Audits of our own products.

Champion Diversity

Our differences are an asset. Diversity and inclusion help us grow. We're all accountable for creating an environment that encourages everyone to bring their true selves to work, share their ideas freely and feel safe speaking up. Whether we're connecting with colleagues or customers, we lead with curiosity and listen with respect.

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Resources

Learn More

- https://www.w3.org/
- https://www.w3.org/WAI
- https://www.w3.org/WAI/standards-guidelines/wcag/
- https://www.w3.org/WAI/WCAG22/quickref/?versions=2.1
- https://www.a11yproject.com/
- https://coolors.co/contrast-checker/112a46-acc8e5
- https://webaim.org/resources/contrastchecker/

Legal

- https://www.whoisaccessible.com/guidelines/largest-web-accessibility-lawsuits/
- https://www.adatitleiii.com/2023/01/plaintiffs-set-a-new-record-for-website-accessibility-lawsuit-filings-in-2022/
- https://www.inquirer.com/business/small-business-website-sued-suits-ada-20200211.html
- https://blog.usablenet.com/a-record-breaking-year-for-ada-digital-accessibility-lawsuits

LinkedIn Learning

- LinkedIn Learning - Designing with the WCAG 2.2 Guidelines

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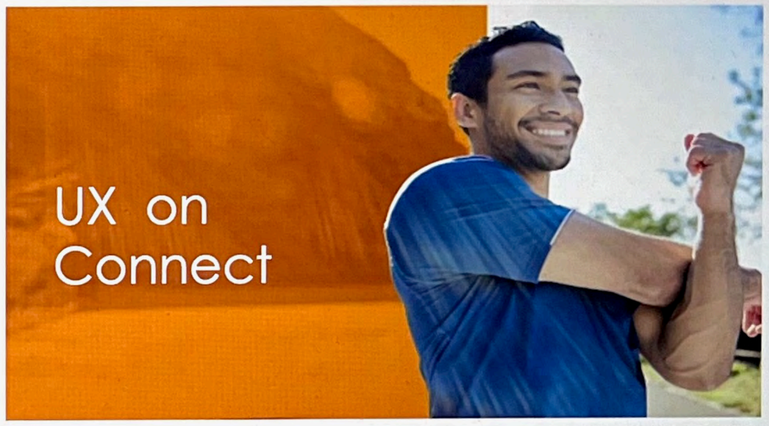
Ways to Engage

Tuesdays & Thursdays
3 - 4 pm CST
Weds 11-12 & 4-5 CST



UX Site, Research Site &
Newsletter, UX Teams Channel

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