

DrupalCon

SEATTLE 2019

APRIL 8-12





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Accessibility Deep Dive Workshop

Aimee Degnan + Caroline Boyden

Rules of Engagement

- If you need to get up - just do it!
- Silence your phones.
- Leave the room if you need to take a call.
- Let us know if we need to adjust:
 - Volume - too loud? too quiet?
 - Pace - too fast? too slow?



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What We're Covering

01

Intro to
Accessibility
(30 min)

02

A11y 201
(20 min)

03

Testing /
Hands On
(40 min)

Setting Expectations

This session will **inform** on many ally topics and provide a gateway to additional tools and information. Information is more **broad** than deep.

Many ally training bootcamps are 2.5 to 3 days, not just one 90 min session.

We are going to cover a lot of information.

Questions are encouraged along the way.

Disclaimers!

The University of California does not endorse any product, service, or company. If you hear something today that sounds like a recommendation, that's a personal opinion, not an institutional one.

Nobody here is your lawyer. Nor your accessibility consultant.

Nobody has paid us to mention them.

We have opinions!



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We've seen it all



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Why are we here?

A broader approach



Section 01

Intro to Accessibility

What is Accessibility?

a.k.a. a11y

Def. - Accessibility refers to the **design** of products, devices, services, or environments **for people who experience disabilities.**

Our session context is **Web Accessibility.**

Web accessibility supports **social inclusion for all individuals**, not just those with disabilities.

Successful Web Accessibility

- **P**erceivable + **O**perable + **U**nderstandable + **R**obust (**POUR**)
- It is a lifestyle, not just a one-time thing.
- Coupled with Usability and Inclusion.
- Any improvements are improvements.



Why?

- **Required:** Government-funded programs, schools, airlines, nonprofits, and industries serving government organizations are required by law.
- **Inclusive:** Everyone should have full access to the web.
- **Expansive:** Potential 20%+ increase users to your site. Improves SEO.

What about the rest of the web site owners?

This is not about blame, it is about understanding.

But it IS about blame now! 380% increase in accessibility lawsuits.



“

All of us are temporarily abled.
We are all aging - daily.

”

Christine Hà

Types of Disability

57 million Americans (~20%) have some type of disability.

Physical / Medical

- Visual impairments
- Hearing impairments
- Mobility impairments
- Seizure Disorders

Cognitive

- Information Processing
- Cognitive Impairments

Temporary / Situational

- Aging Populace
- English as Second Language
- Injury
- Environmentally Caused Impairment

Types of Disability

Common considerations and what are they called?

Physical / Medical

- Motion Induced
- Blindness
- Color Blindness
- Presbyopia
- Repetitive Stress Injury
- Deaf / Hard of Hearing

Cognitive

- Motion Induced
- Autism
- ADD / ADHD
- Depression / Anxiety
- Fatigue
- Learning disability

Temporary / Situational

- Motion Induced
- Sleep Deprivation
- Broken arm
- On the bus



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Combinations!



Assistive Technology



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NOT Assistive Technology

Although some may think they are...

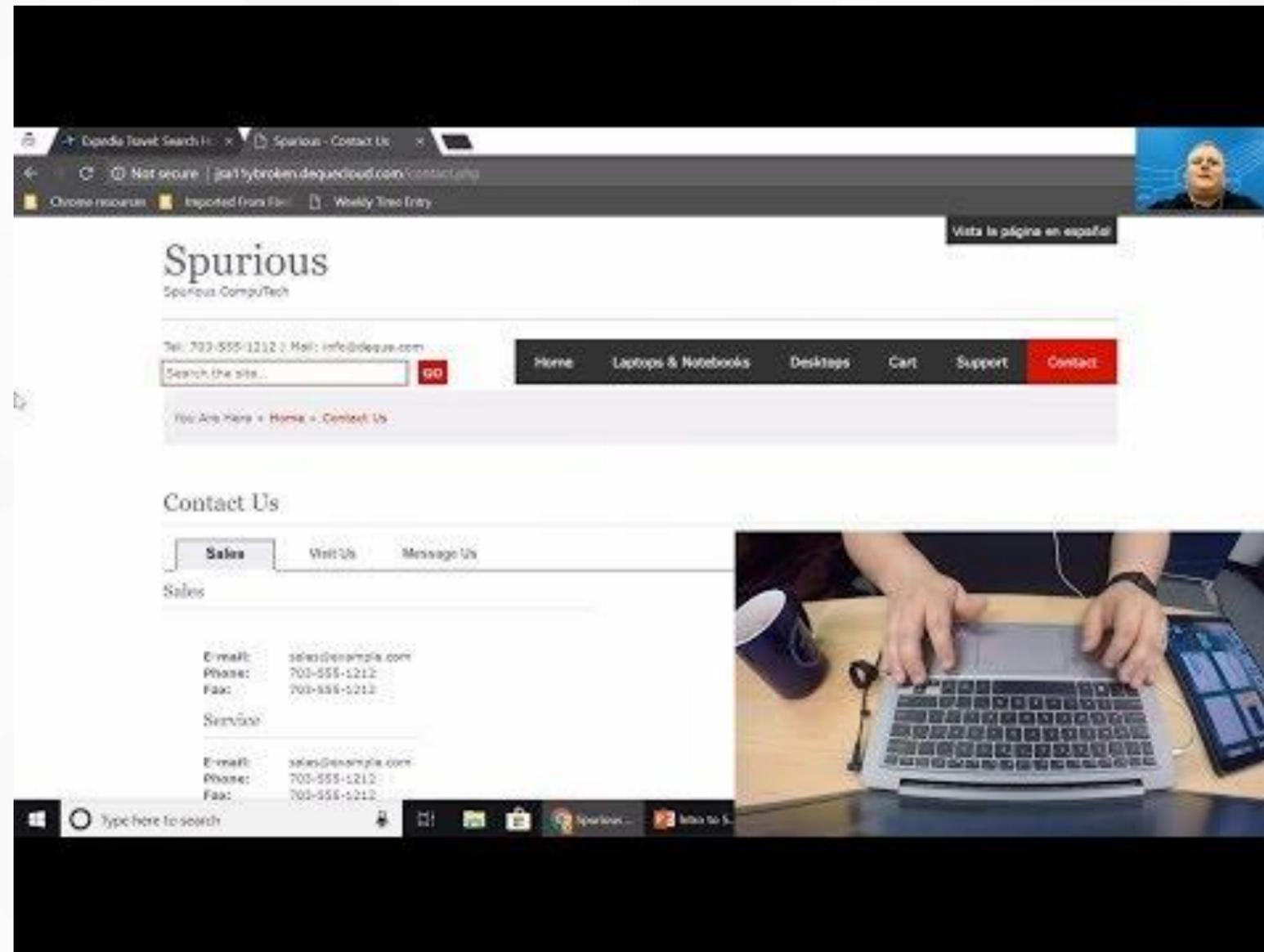
**Keyboard
Navigation**

Browser Zoom

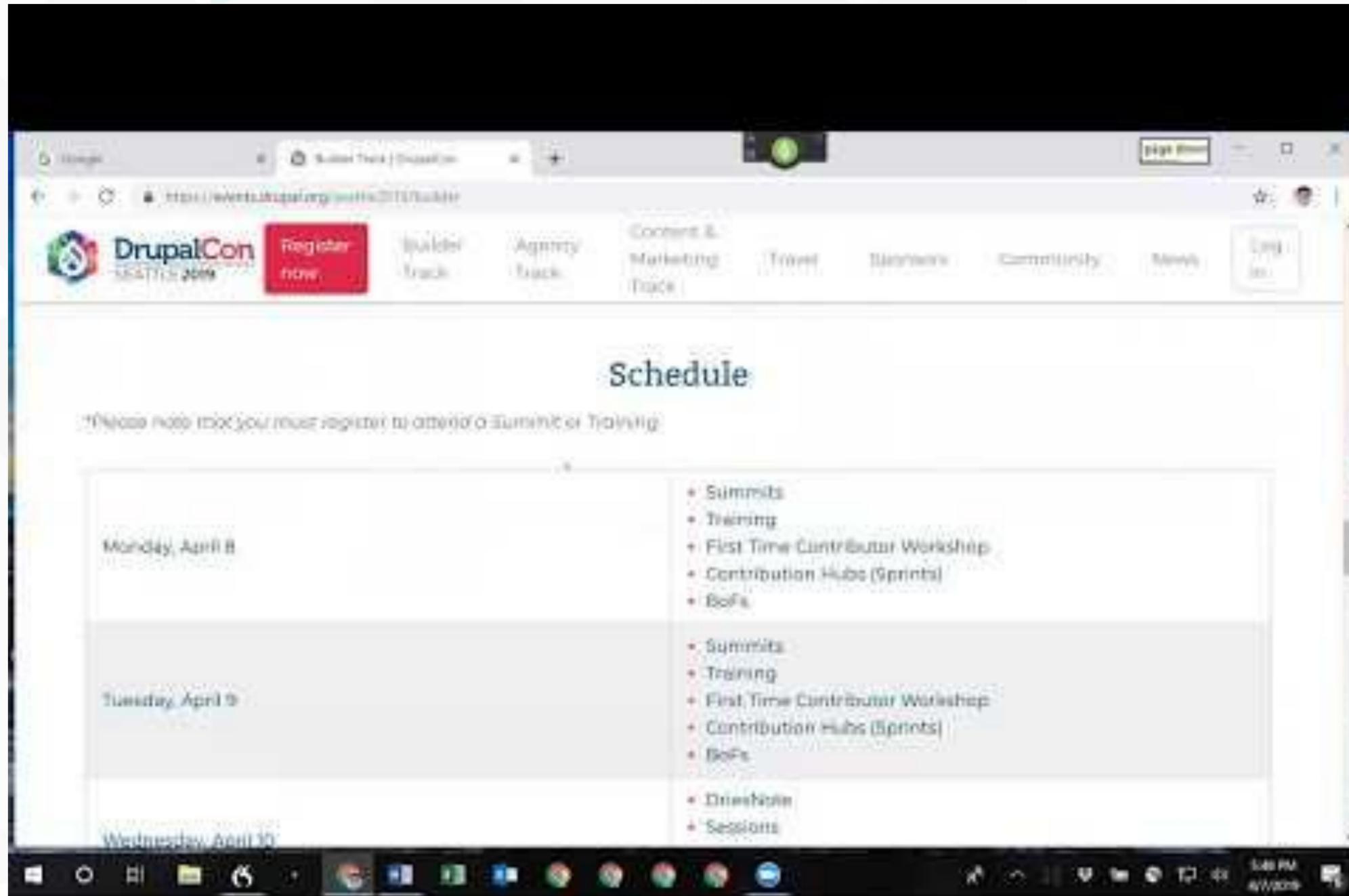
**Custom User
Stylesheets**

**Machine
Translation**

Screenreaders



Speech control



The screenshot shows a web browser displaying the DrupalCon Seattle 2019 website. The page is titled "Schedule" and includes a navigation menu with links for "Register now", "Builder Track", "Agency Track", "Content & Marketing Track", "Travel", "Sponsors", "Community", and "News". A note states: "Please note that you must register to attend a Summit or Training". The schedule is organized by day:

Day	Activities
Monday, April 8	<ul style="list-style-type: none">• Summits• Training• First Time Contributor Workshop• Contribution Hubs (Sprints)• BoFs
Tuesday, April 9	<ul style="list-style-type: none">• Summits• Training• First Time Contributor Workshop• Contribution Hubs (Sprints)• BoFs
Wednesday, April 10	<ul style="list-style-type: none">• Dinner• Sessions

Alternative inputs



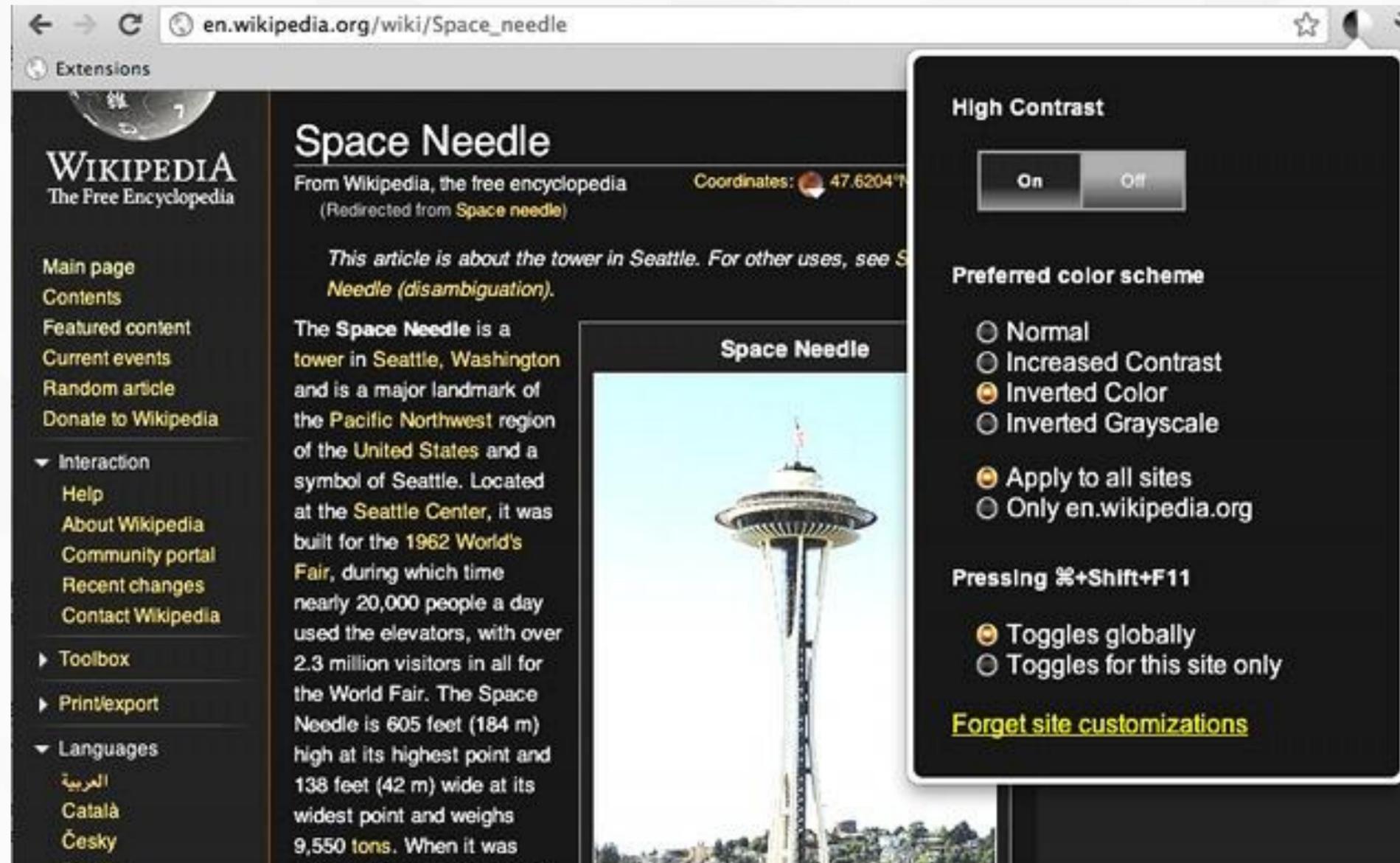
<https://govtnz.github.io/web-standards/workshops/NZ-Govt-A11y-for-developers-workshop-June-July-2017/#/s7>

Magnification



<https://govtnz.github.io/web-standards/workshops/NZ-Govt-A11y-for-developers-workshop-June-July-2017/#/s7>

High Contrast



The screenshot shows a web browser window displaying the Wikipedia page for 'Space Needle'. The page content is visible through a high contrast overlay. The overlay is a dark grey/black box with white text and controls. The browser address bar shows 'en.wikipedia.org/wiki/Space_needle'. The page title is 'Space Needle' and the text below it reads 'From Wikipedia, the free encyclopedia (Redirected from Space needle)'. The main text describes the Space Needle as a tower in Seattle, Washington, and a major landmark of the Pacific Northwest region. A photograph of the Space Needle is visible on the right side of the page. The high contrast overlay includes a toggle switch for 'High Contrast' (set to 'On'), a 'Preferred color scheme' section with radio buttons for 'Normal', 'Increased Contrast', 'Inverted Color', and 'Inverted Grayscale', and a 'Pressing ⌘+Shift+F11' section with radio buttons for 'Toggles globally' and 'Toggles for this site only'. A link for 'Forget site customizations' is also present.

en.wikipedia.org/wiki/Space_needle

Extensions

WIKIPEDIA
The Free Encyclopedia

Main page
Contents
Featured content
Current events
Random article
Donate to Wikipedia

Interaction
Help
About Wikipedia
Community portal
Recent changes
Contact Wikipedia

Toolbox

Print/export

Languages
العربية
Català
Česky

Space Needle

From Wikipedia, the free encyclopedia Coordinates: 47.6204°N 122.3493°W﻿ / ﻿47.6204°N 122.3493°W﻿ / 47.6204; -122.3493
(Redirected from *Space needle*)

This article is about the tower in Seattle. For other uses, see [Space Needle \(disambiguation\)](#).

The **Space Needle** is a tower in Seattle, Washington and is a major landmark of the Pacific Northwest region of the United States and a symbol of Seattle. Located at the Seattle Center, it was built for the 1962 World's Fair, during which time nearly 20,000 people a day used the elevators, with over 2.3 million visitors in all for the World Fair. The Space Needle is 605 feet (184 m) high at its highest point and 138 feet (42 m) wide at its widest point and weighs 9,550 tons. When it was

Space Needle



Screenreader / Highlighter

The American Revolution
had both long-term origins
and short-term causes. In
this section, we will look
broadly at some of the long-
term political, intellectual,



Alternative outputs





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That's a lot of
technologies



Who Provides a11y Support

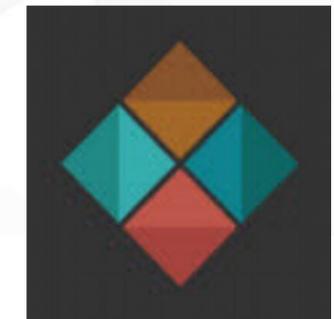
Overcoming Obstacles

- Time
- Budget
- Lack of Knowledge
- Lack of Skills
- Retrofitting
- Laws



Organizations

- **W3G** (World Wide Web Consortium)
- **WAI** (Web Accessibility Initiative) from W3G
- **WAI-ARIA** (Accessibility of Rich Internet Applications)
- **Usability.gov** (US Dept. Health & Human Services)
- **ITI** (Information Technology Industry Council) - Created VPAT
- **IAAP** (International Association of Accessibility Professionals)



In Your Organization

- **Developer**
- **Designer**
- **QA / Testing Team**
- **Content Contributor**
- **Project Manager**
- **Purchasing**
- **Compliance Team**
- **Executive Sponsors**
- **Legal Team**



Legal Considerations

Laws

- Rehabilitation Act of 1973
- Section 508. Accessible Information Technology in Government

Related sections: 501 / 505 / 503 / 504 (Equal opportunity hiring and support)

Americans with Disability Act of 1990 (current base law)



Prove I'm
Compliant!

Voluntary **P**roduct **A**ccessibility **T**emplate



Recent Changes

Section 508 update published **June 5, 2018**.

Includes: accessibility improvements, international alignment, updated tech, clearer requirements.

Changes **aligned** to WCAG 2.0 standards and WCAG 2.1 updates.

Not to be confused with WCAG 2.1 updates, although they are related.

Everything is catching up!

Increase in Litigation

Most: Visually Impaired.

Some: Hearing Impaired.





Understanding a11y Guidelines and Documentation

aka Read the Manual and
Understand It!

WAI Standards for the Web & CMS

WCAG (Web Content Accessibility Guidelines)

- 2.0, published December 2008
- 2.1, extension of 2.0, published June 5, 2018

ATAG (Authoring Tool Accessibility Guidelines)

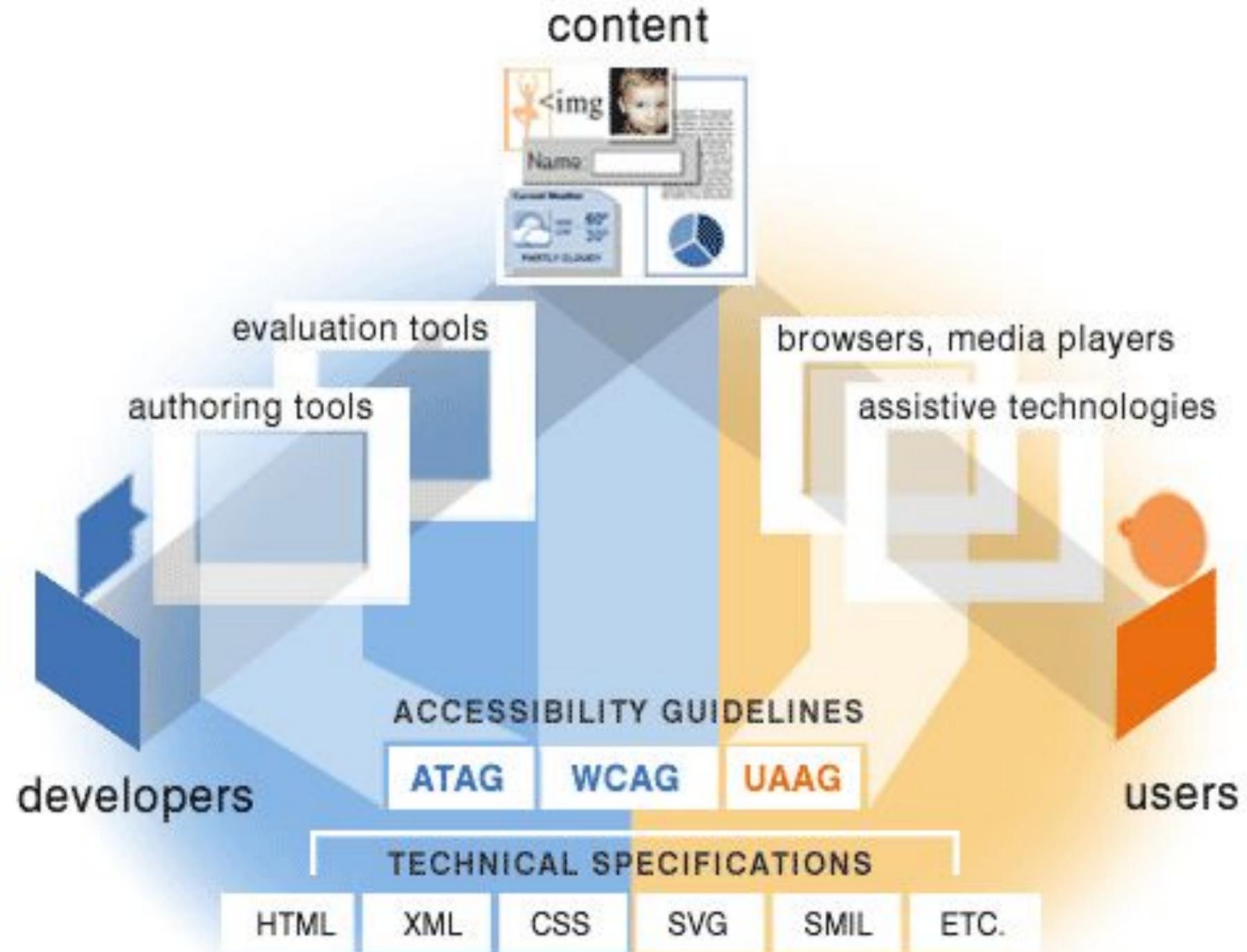
- CMS back end
- Developer tools

UAAG (User Agent Accessibility Guidelines)

- browser, plugins, media players



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WCAG Conformance Levels

- **Principles** (Grouped concepts)
- **Guidelines** (The G in WCAG, language used by usability.gov)
- **Success Criteria** (Does it pass)
- Sufficient and Advisory **Techniques** (How to)

WCAG Conformance Levels



lowest



508 target



highest

About Conformance

- One must pass all tests or provide a conforming alternate.
- Meeting total AAA compliance is difficult for a whole site. Some elements are only compliant to the AA level.
- You must meet conformance for the technologies you use, not every one.
- Conformance is rated per page or functional process, not for the whole site.

WCAG Success Criteria

Criteria are Numbered & Grouped by the **POUR** principles.

Sections are defined up to three levels (1.1.1), used as reference in testing tools.

1. Perceivable
2. Operable
3. Understandable
4. Robust

1. Perceivable

WCAG Success Factors

1.1 Text Alternatives

1.1.1 Non-text Content

1.2 Time-based Media

- 1.2.1 Audio-only and Video-only (Prerecorded)
- 1.2.2 Captions (Prerecorded)
- 1.2.3 Audio Description or Media Alternative (Prerecorded)
- 1.2.4 Captions (Live)
- 1.2.5 Audio Description (Prerecorded)
- 1.2.6 Sign Language (Prerecorded)
- 1.2.7 Extended Audio Description (Prerecorded)
- 1.2.8 Media Alternative (Prerecorded)
- 1.2.9 Audio-only (Live)

1.3 Adaptable

- 1.3.1 Info and Relationships
- 1.3.2 Meaningful Sequence
- 1.3.3 Sensory Characteristics
- 1.3.4 Orientation
- 1.3.5 Identify Input Purpose
- 1.3.6 Identify Purpose

1.4 Distinguishable

- 1.4.1 Use of Color
- 1.4.2 Audio Control
- 1.4.3 Contrast (Minimum)
- 1.4.4 Resize text
- 1.4.5 Images of Text
- 1.4.6 Contrast (Enhanced)
- 1.4.7 Low or No Background Audio
- 1.4.8 Visual Presentation
- 1.4.9 Images of Text (No Exception)
- 1.4.10 Reflow
- 1.4.11 Non-text Contrast
- 1.4.12 Text Spacing
- 1.4.13 Content on Hover or Focus

2. Operable

WCAG Success Factors

2.1 Keyboard Accessible

- 2.1.1 Keyboard
- 2.1.2 No Keyboard Trap
- 2.1.3 Keyboard (No Exception)
- 2.1.4 Character Key Shortcuts

2.2 Enough Time

- 2.2.1 Timing Adjustable
- 2.2.2 Pause, Stop, Hide
- 2.2.3 No Timing
- 2.2.4 Interruptions
- 2.2.5 Re-authenticating
- 2.2.6 Timeouts

2.3 Seizures and Physical Reactions

- 2.3.1 Three Flashes or Below Threshold
- 2.3.2 Three Flashes
- 2.3.3 Animation from Interactions

2.4 Navigable

- 2.4.1 Bypass Blocks
- 2.4.2 Page Titled
- 2.4.3 Focus Order
- 2.4.4 Link Purpose (In Context)
- 2.4.5 Multiple Ways
- 2.4.6 Headings and Labels
- 2.4.7 Focus Visible
- 2.4.8 Location
- 2.4.9 Link Purpose (Link Only)
- 2.4.10 Section Headings

2.5 Input Modalities

- 2.5.1 Pointer Gestures
- 2.5.2 Pointer Cancellation
- 2.5.3 Label in Name
- 2.5.4 Motion Actuation
- 2.5.5 Target Size
- 2.5.6 Concurrent Input Mechanisms

3. Understandable

WCAG Success Factors

3.1 Readable

- 3.1.1 Language of Page
- 3.1.2 Language of Parts
- 3.1.3 Unusual Words
- 3.1.4 Abbreviations
- 3.1.5 Reading Level
- 3.1.6 Pronunciation

3.2 Predictable

- 3.2.1 On Focus
- 3.2.2 On Input
- 3.2.3 Consistent Navigation
- 3.2.4 Consistent Identification
- 3.2.5 Change on Request

3.3 Input Assistance

- 3.3.1 Error Identification
- 3.3.2 Labels or Instructions
- 3.3.3 Error Suggestion
- 3.3.4 Error Prevention (Legal, Financial, Data)
- 3.3.5 Help
- 3.3.6 Error Prevention (All)

4. Robust

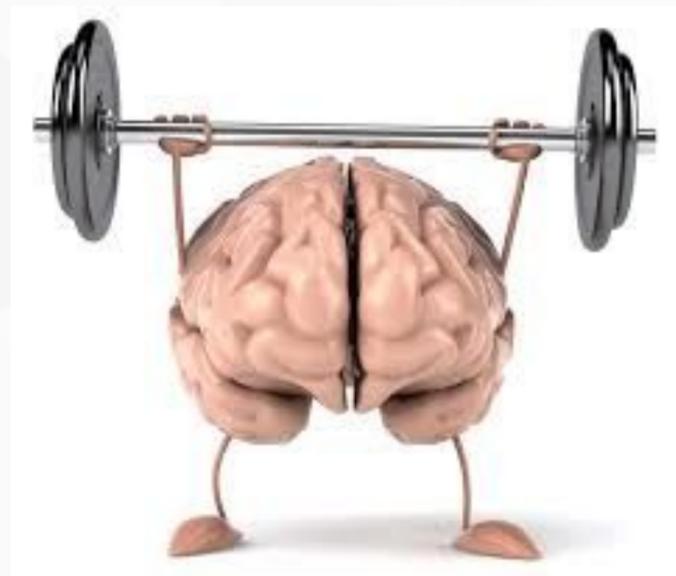
WCAG Success Factors

4.1 Compatible

4.1.1 Parsing

4.1.2 Name, Role, Value

4.1.3 Status Messages



5. Conformance

WCAG Success Factors

5.1 Interpreting Normative Requirements

5.2 Conformance Requirements

- 5.2.1 Conformance Level
- 5.2.2 Full pages
- 5.2.3 Complete processes
- 5.2.4 Only Accessibility-Supported Ways of Using Technologies
- 5.2.5 Non-Interference

5.3 Conformance Claims (Optional)

- 5.3.1 Required Components of a Conformance Claim
- 5.3.2 Optional Components of a Conformance Claim

5.4 Statement of Partial Conformance - Third Party Content

5.5 Statement of Partial Conformance - Language

New Success Criteria in WCAG 2.1

WCAG Success Factors

Perceivable

- 1.3.4 Orientation (AA)
- 1.3.5 Identify Input Purpose (AA)
- 1.3.6 Identify Purpose (AAA)
- 1.4.10 Reflow (AA)
- 1.4.11 Non-Text Contrast (AA)
- 1.4.12 Text Spacing (AA)
- 1.4.13 Content on Hover or Focus (AA)

Operable

- 2.2.6 Timeouts (AAA)
- 2.3.3 Animation from Interactions (AAA)
- 2.5.1 Pointer Gestures (A)
- 2.5.2 Pointer Cancellation (A)
- 2.5.3 Character Key Shortcuts (A)
- 2.5.4 Label in Name (A)
- 2.5.5 Target Size (AAA)
- 2.5.6 Concurrent Input Mechanisms (AAA)
- 2.5.7 Motion Actuation (A)

Robust

- 4.1.3 Status Messages (AA)

WCAG Techniques

How-to Implement

Named with a scope and numbered:

- G (General Techniques) - 206!
- H (HTML / XHTML Techniques) - 97!
- C (CSS) - 30
- SCR (Client Side Scripting) - 38
- SVR (Server Side Scripting) - 5
- SM (SMIL) - 14
- T (Plain text)
- ARIA - 20
- FLASH - 36
- SL (Silverlight) - 35
- PDF - 23
- F (Failures) - 93

Contains:

- Code examples
- Defined test steps
- Implementation & use
- Mapped to Success Criteria

Usability.gov

How-to Design ATly UX

Chapter 1: Design Process and Evaluation
Chapter 2: Optimizing the User Experience
Chapter 3: Accessibility
Chapter 4: Hardware and Software
Chapter 5: The Home Page
Chapter 6: Page Layout
Chapter 7: Navigation
Chapter 8: Scrolling and Paging
Chapter 9: Headings, Titles, and Labels
Chapter 10: Links
Chapter 11: Text Appearance
Chapter 12: Lists
Chapter 13: Screen-Based Controls (Widgets)
Chapter 14: Graphics, Images, and Multimedia
Chapter 15: Writing Web Content
Chapter 16: Content Organization
Chapter 17: Search
Chapter 18: Usability Testing

Characteristics:

- Numbered System
 - Chapter #
 - Section #
 - Section #
- Referenced by testing tools
- Importance
- Strength of Evidence
- Guidelines
- Examples



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Universal Design is Good Design



“

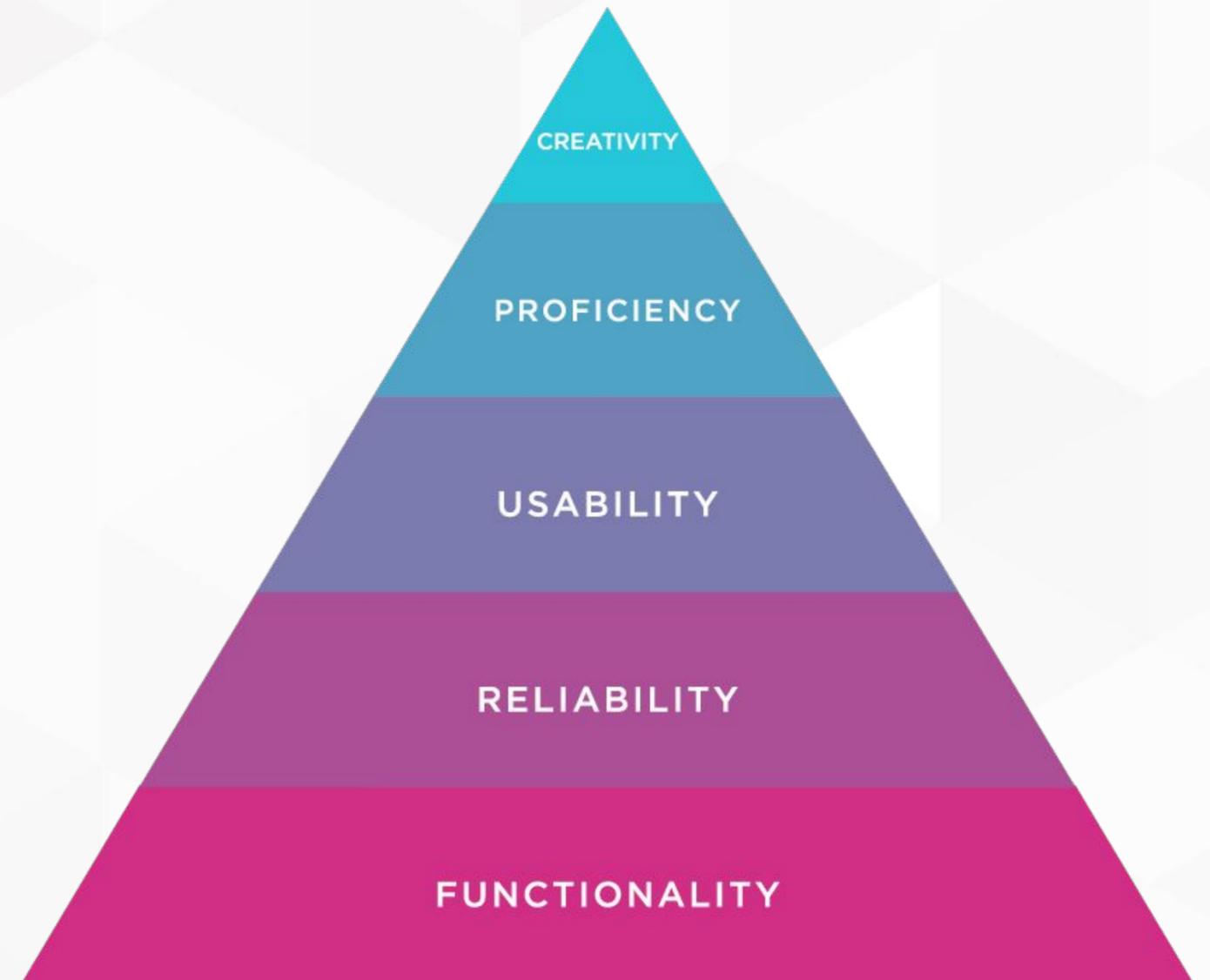
Universal Design is the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability.

”

National Disability Authority

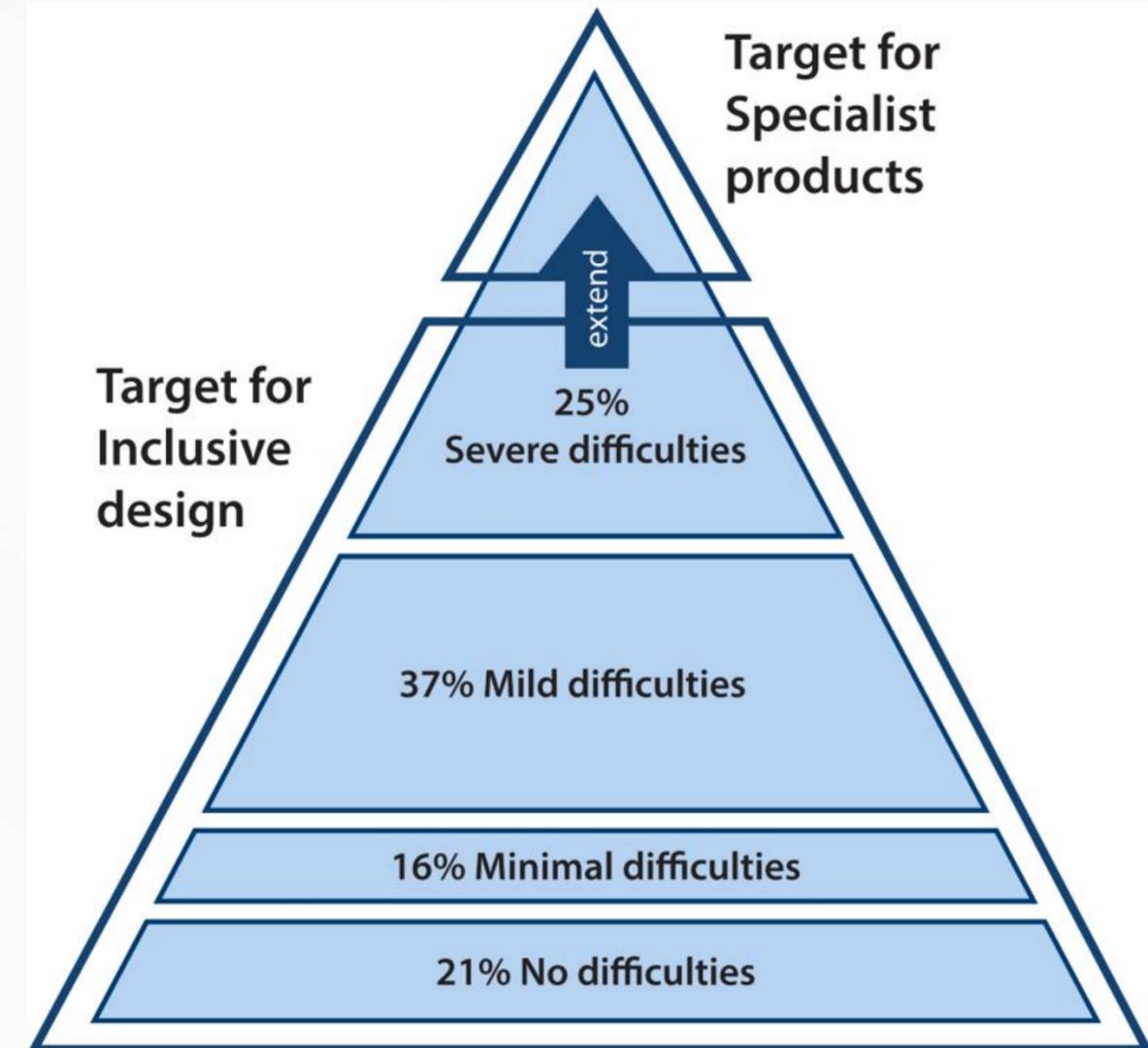
Design Hierarchy

- Functionality (foundation)
- Reliability
- Usability
- Proficiency
- Creativity (last)



Inclusive Design

- Target the 99%
- 78% needs additional consideration



Usability Guidelines

- User Experience
- Content Strategy
- Information Architecture
- Interaction Design
- Visual Design



Design Considerations

Use of Color

- Contrast Ratios
- Color Combinations
- High Contrast Themes
- When and Where

Use of Fonts

- Dyslexia
- Serif / Sans Serif
- Size, Kerning, Line Height
- Ornamental

10 -17% in US are dyslexic

Overall Page Structure

- Concise content
- Consistent layout
- Clear visual regions
- Obvious focus indicators
- Simple, navigation
- Ample space in elements
- Important at top /

Making the Web Accessible

Hide Section 

Strategies, standards, and supporting resources to help you make the Web more accessible to people with disabilities.



W3C

The World Wide Web Consortium (W3C) develops international standards for the Web: HTML, CSS, and many more.



WAI

The W3C Web Accessibility Initiative (WAI) develops standards and support materials to help you understand and implement accessibility.



You

You can use W3C WAI resources to make your websites, applications, and other digital creations more accessible and usable to everyone.

News

WCAG 2.1 adopted in European standard EN 301 549 for ICT

European standard EN 301 549 "Accessibility requirements for ICT products and services" is updated to adopt Web Content Accessibility Guidelines (WCAG) 2.1 for information and communications technology (ICT) including:

- web content
- electronic documents
- non-web software, such as native mobile apps

See more information in the blog post [WCAG 2.1 Adoption in Europe](#).

(2018-09-13)

WCAG 2.1 in Italian: Authorized Translation Published

[Linee guida per l'accessibilità dei contenuti Web \(WCAG\) 2.1](#), the Italian Authorized Translation of [Web Content Accessibility Guidelines \(WCAG\) 2.1](#), is now available, following completion of the W3C

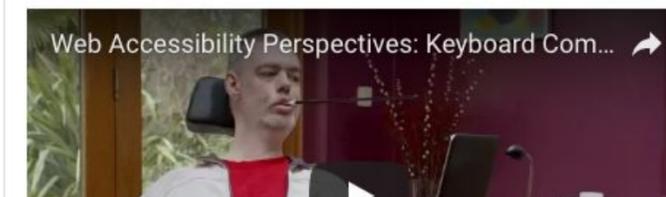
See what we have for you:

Get Resources for...

- [Content Writers](#)
- [Designers](#)
- [Developers](#)
- [Evaluators, Testers](#)
- [Managers](#)
- [Policy Makers](#)
- [Trainers, Educators](#)
- [Web Users, People with Disabilities, Advocates](#)

Web Accessibility Perspectives:

Keyboard Compatibility



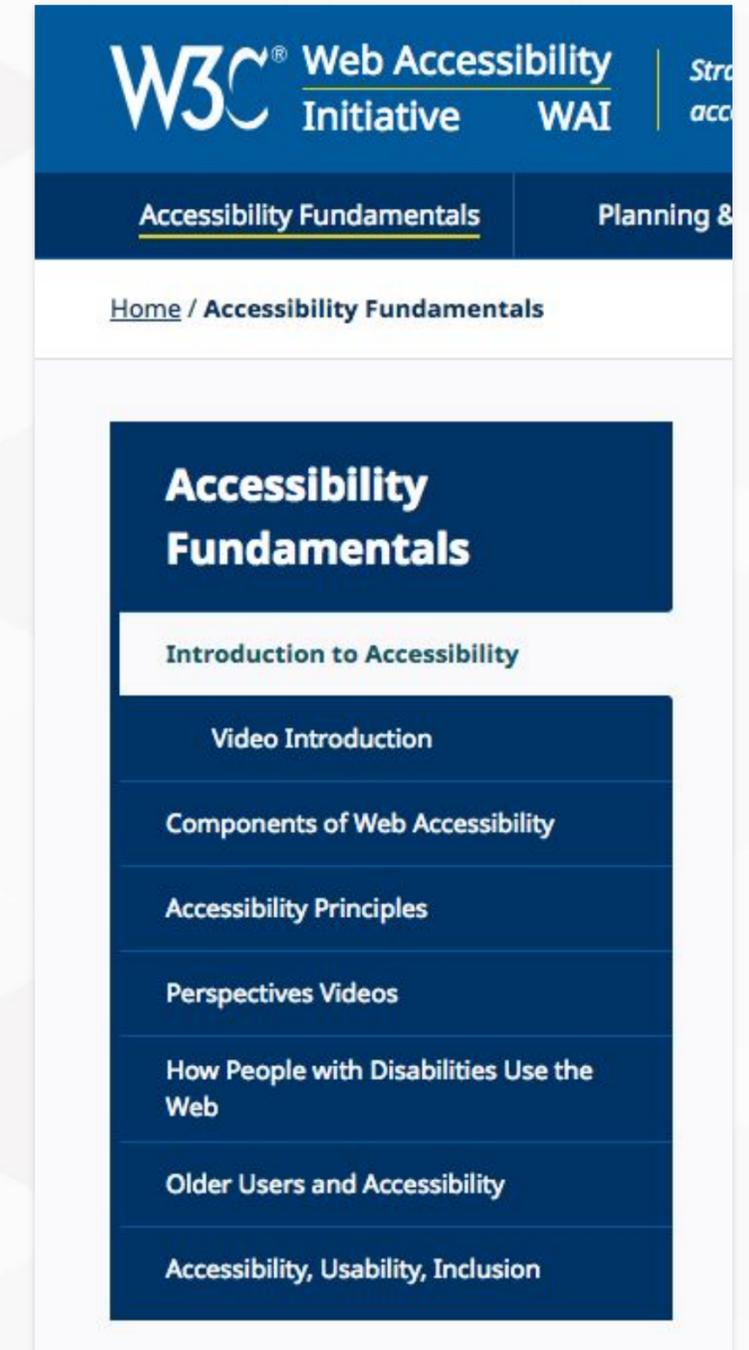
Navigational Elements

Include in your design strategy:

- Menus
- Headings
- Call to Actions / Buttons
- Links (external, internal, icons)
- Visual Focus Indicators
(keyboard navigation)

Additional considerations:

- Size
- Placement
- Information Architecture
- Interactive elements





Content
Copy
Headlines
Media

Accessible Content

Content understood by the greatest number of people.

- Keep readers engaged - don't lose them
 - Smaller chunks of information.
 - Scan patterns vs. full prose reading
- Readable by assistive devices.
 - Properly used markup.
 - Clear use of language.

Use Plain Language

- It is clear, concise, and appropriate for the reader.
- It is easily read and understandable.

Who benefits?

- Non-native speakers and listeners
- People with cognitive disabilities
- People in noisy, distracting environments (situational disabilities)

Content Considerations

Words

- Use contractions
- Smaller words
- Simple words
- Number of words
- Less syllables

Sentence

- Short sentences
- Active vs. Passive voice
- Bulleted lists
- 14 words is easy.
- Complicated sentences slow readers down and are hard to understand.

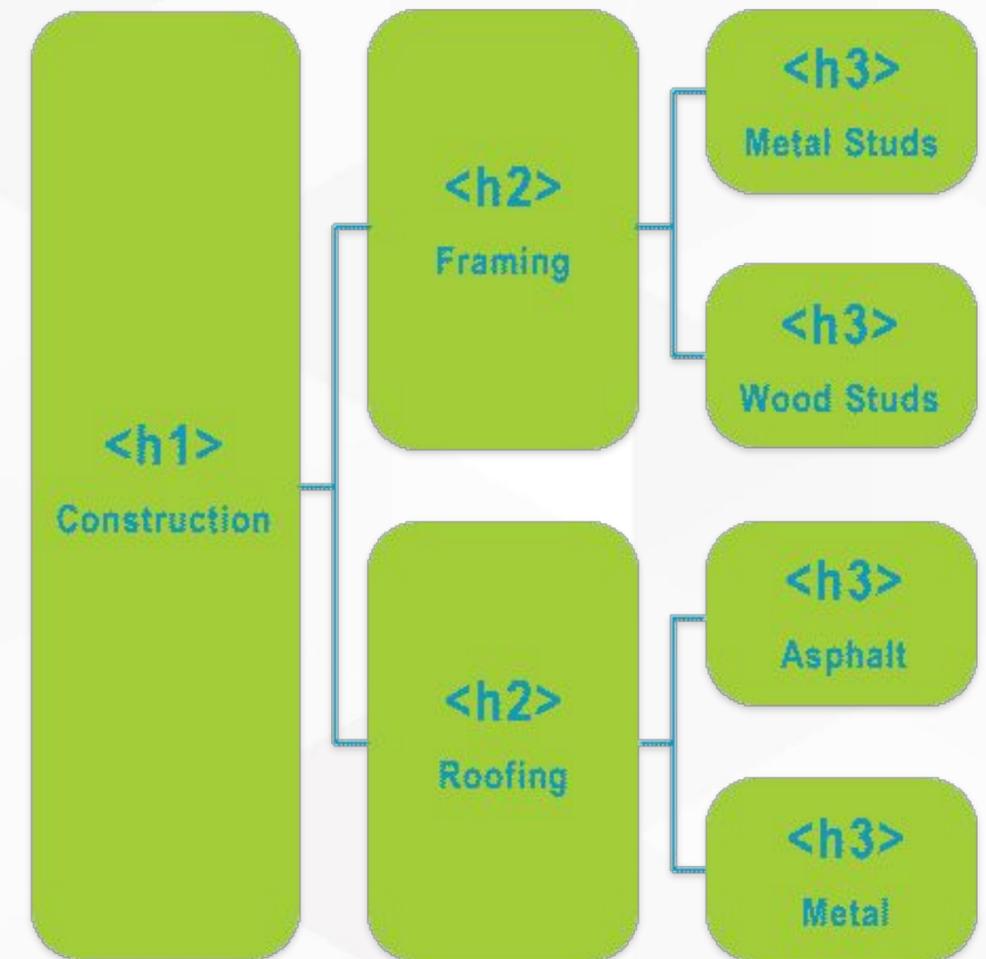
Reading Level

- Match your audience
- Target 9th grade level
- Total content voice

Heading Strategy

It matters!

- Design considers heading hierarchy.
- Declare heading use in component design.
- Separate styles from heading tags `<h1 - h6>`.
- Use clear writing and avoid complex words.
- Define character counts.
- Define wrapping behavior.
- Define interaction with navigational elements, if any.



Accessible Images 101

- Color and Contrast
- Avoid text in images (enlarged = pixelation)
- Avoid animations (user controlled, short, avoid flashing)
- Icons should be simple and easily understood
- Try to use images to enhance comprehension

alt

- Required replacement text that could be used instead of the image (but can have a null value of alt="").
- Describes the content (if any) and function (if any) of an image.
- Should be succinct, and should be not redundant information.

- Don't use "Image of..."

Informative Images

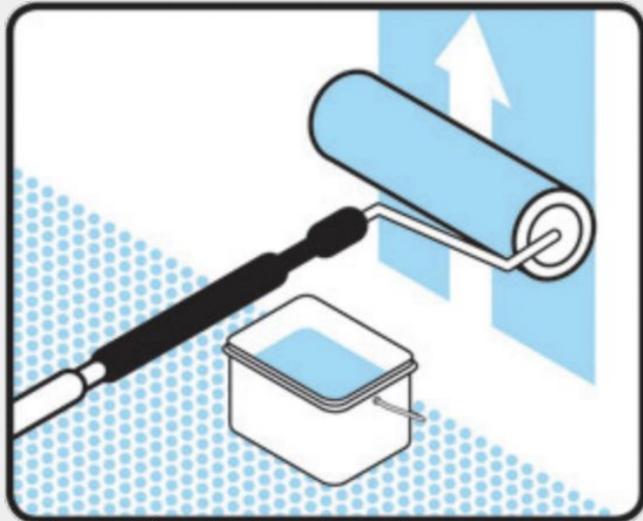
 415-867-5309

 415-867-5310

[2018 Budget](#)  (128KB)



Crossing guards wear bright colors to be easily identified.
alt text: A crossing guard with a reflective vest.



alt text:
Roll up from the
floor to the ceiling.



alt text:
Our water
park is kid
friendly!

Decorative Images (no alt text needed)



Insectivore warthogs: Some African warthogs have been observed to eat only insects.



Angolan
meerkat



The Pride Lands is a monarchy-ruled kingdom with many landmarks.

Functional Images



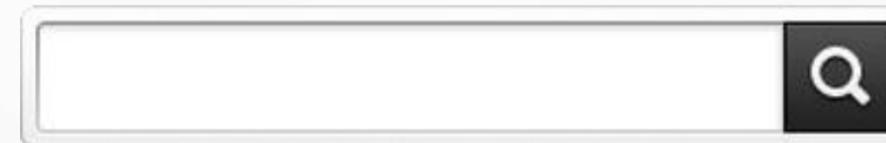
alt: The Mushroom Council Home



[The Mushroom Council Home](#)



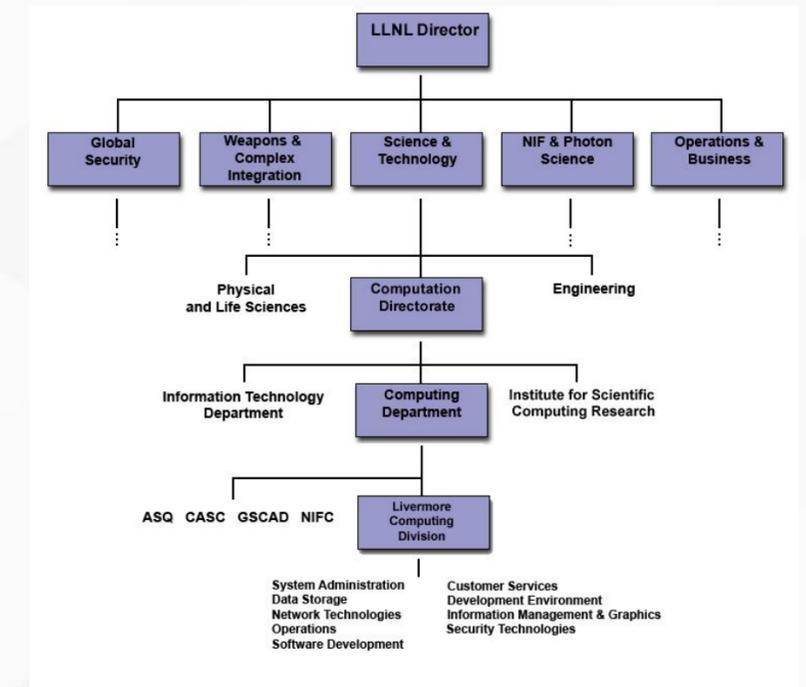
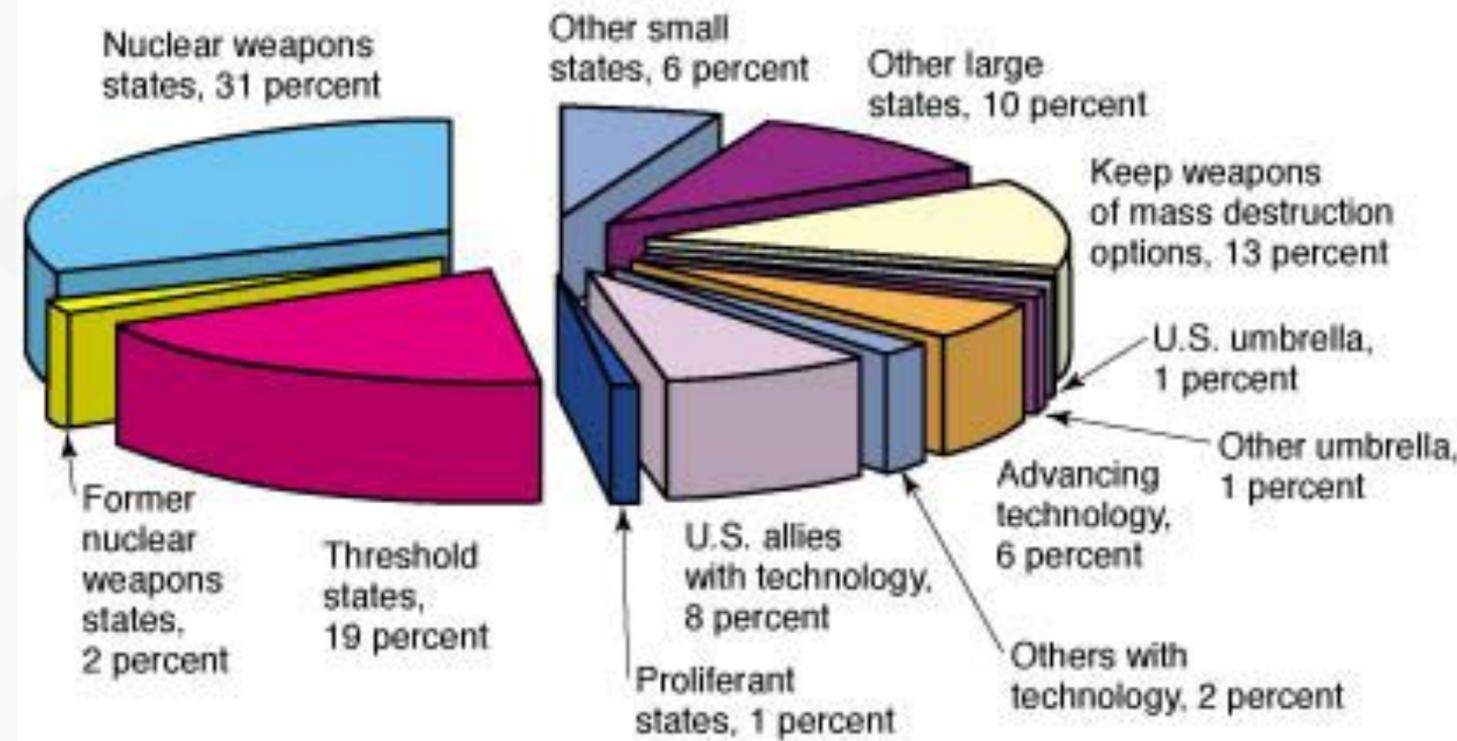
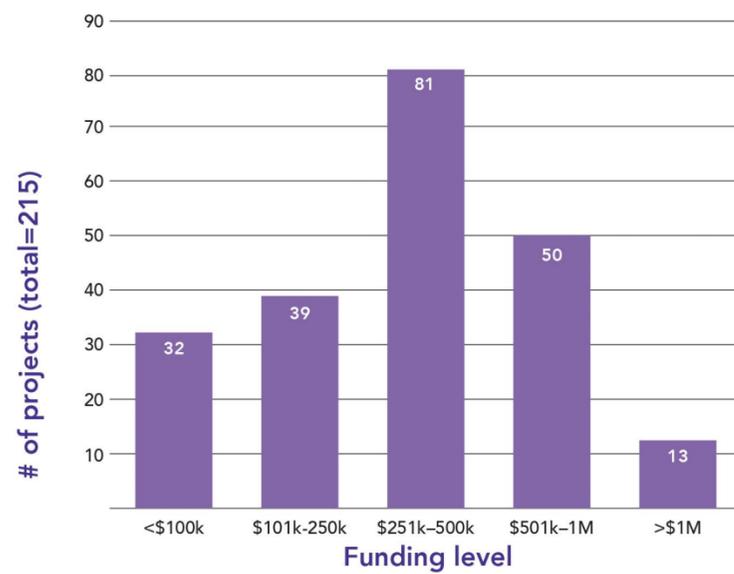
alt: Print this page



alt: Search

Complex Images

Number of Projects by Funding Level





Section 02

Accessibility 201



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Three types of problems



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Reinventing the wheel

Breaking keyboard access





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ARIA abuse



Accessible Web Development



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ARIA

(Accessible Rich Internet Applications)



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The accessibility tree



DrupalCon
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Name, Role, State



DrupalCon
SEATTLE 2019
APRIL 8-12

ARIA only provides
information



DrupalCon
SEATTLE 2019
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Semi-musical interlude



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What Not to Code



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Advanced mistakes



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<https://webaccess.berkeley.edu/checklist>



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Out of sight, out of mind?



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a href=
a id=



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tabindex=



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The first rule of ARIA



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Always use native
elements



Other
ARIA
Things
(not so deep)



Contico

CAUTION



WET FLOOR



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Misplaced properties



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role=presentation
role=none



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aria-hidden=true



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tablist, tabpanel, tab



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role=alert
role=dialog
aria-live



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aria-label

DANGER



KEEP OUT



ARIA

Super Duper Listen To Us

Really.



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menu, menubar,
menuitem
toolbar



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application



Section 03

Accessibility Testing

This List is Amazing!

<https://www.w3.org/WAI/ER/tools/>

Web Accessibility Evaluation Tools List



Web accessibility evaluation tools are software programs or online services that help you determine if web content meets accessibility guidelines. This page provides a list of evaluation tools that you can filter to find ones that match your particular needs. To determine what kind of tool you need and how they are able to assist you, see [Selecting Web Accessibility Evaluation Tools](#).

Information on this page is provided by vendors and others. W3C does not endorse specific products. See [Important Disclaimer](#).

▼ Filters:

▼ Guidelines

- WCAG 2.1 – W3C Web Content Accessibility Guidelines 2.1 (13 tools)
- WCAG 2.0 – W3C Web Content Accessibility Guidelines 2.0 (104 tools)
- WCAG 1.0 – W3C Web Content Accessibility Guidelines 1.0 (31 tools)
- BITV, German government standard (13 tools)
- RGAA, French government standard (9 tools)
- JIS, Japanese industry standard (13 tools)
- AccessiWeb (1 tool)

Showing 123 tools

[508 Checker](#) by *Formstack* ↩ SHARE

With 508checker.com you can quickly check a webpage for 508 compliance and learn more about how to become 508 compliant across your entire organization

<http://www.508checker.com>, Version: 1.4, Released: 2014-Jun-01

► [Detailed Information about “508 Checker”](#)

[A11Y Color Contrast Accessibility Validator](#) by *A11Y Company* ↩ SHARE

A free website compliance tool that displays the color contrast issues of a web page per WCAG Guidelines. The results display color combinations that fail the contrast checkpoints and provide specific recommendations on how to fix the issue to become compliant.

<https://color.a11y.com/?wc3>, Version: 5.8, Released: 2017-Dec-17

► [Detailed Information about “A11Y Color Contrast Accessibility Validator”](#)

Types of Testing Tools

■ Authoring Tools Plugin

- (Office, PDF, CKEditor)

■ Browser Plugin

- (Bookmarklets, Axe by Deque, tota1ly)

■ Command Line Tools

- (pa1ly, HTML Code Sniffer, WCAG Linter)

■ Desktop Application

- (Sort Site, ComplyFirst Pro, aDesigner)

■ Mobile Application

- (a1lyTools for iOS, WordSpace Attest (Unit tester))

■ Online Tools / SaaS

- (Sort Site/PowerMapper, SiteImprove, Tenon, WAVE)

Scope of Testing Tools

- Organizational dashboards
- Full site scans
- Single page testing
- Single concept testing
- Single test (color) vs. multitest (508) vs. multitest - env specific

WCAG compliance is measured on a FULL PAGE or COMPLETE PROCESS basis.

There may be multiple WCAG issues on a single page.

Methods of Testing

Automated

- Continuous Integration (CI) / Code Regression
- Scheduled site scanners

Tool Assisted

- Developer and Content creator tools
- Run as-needed by the developer or content contributor

Manual

- Single page
- Complete process
- Compliance not covered by tools
- Single-test tool
- Assistive tech

Challenges of Testing Tools

- Costs
- Testing for content editors
- Working with firewalls
- Working with logins / authenticated pages
- Working with complex pages and processes
- Identifying missing tests within your tools
- Understanding false positives or negatives
- Prioritizing remediation

Meeting AAA compliance may not be possible on some pages because some elements are only compliant to the AA level.

Is “free” free?

- Normally single page tests
- Takes manual efforts and people’s time
- May need increased permissions to install plugins
- So many plugins! Which ones to use?
- Results are localized to local computer
- Results from online services may expose your site’s content

SaaS Tools

- Tenon.io
- PowerMapper
- Siteimprove
- Accessibility Resource Center (ARC)
- DinoLytics (WAVE based dashboard)

Takeaways:

- ***Some costs are OK***
- ***Some have organizational roll-ups, centralized***
- ***Each have their own benefits and limitations***



Tools For Before You Code

Toptal Color Blindness Emulator

Type a URL:
<http://www.drupal.org>

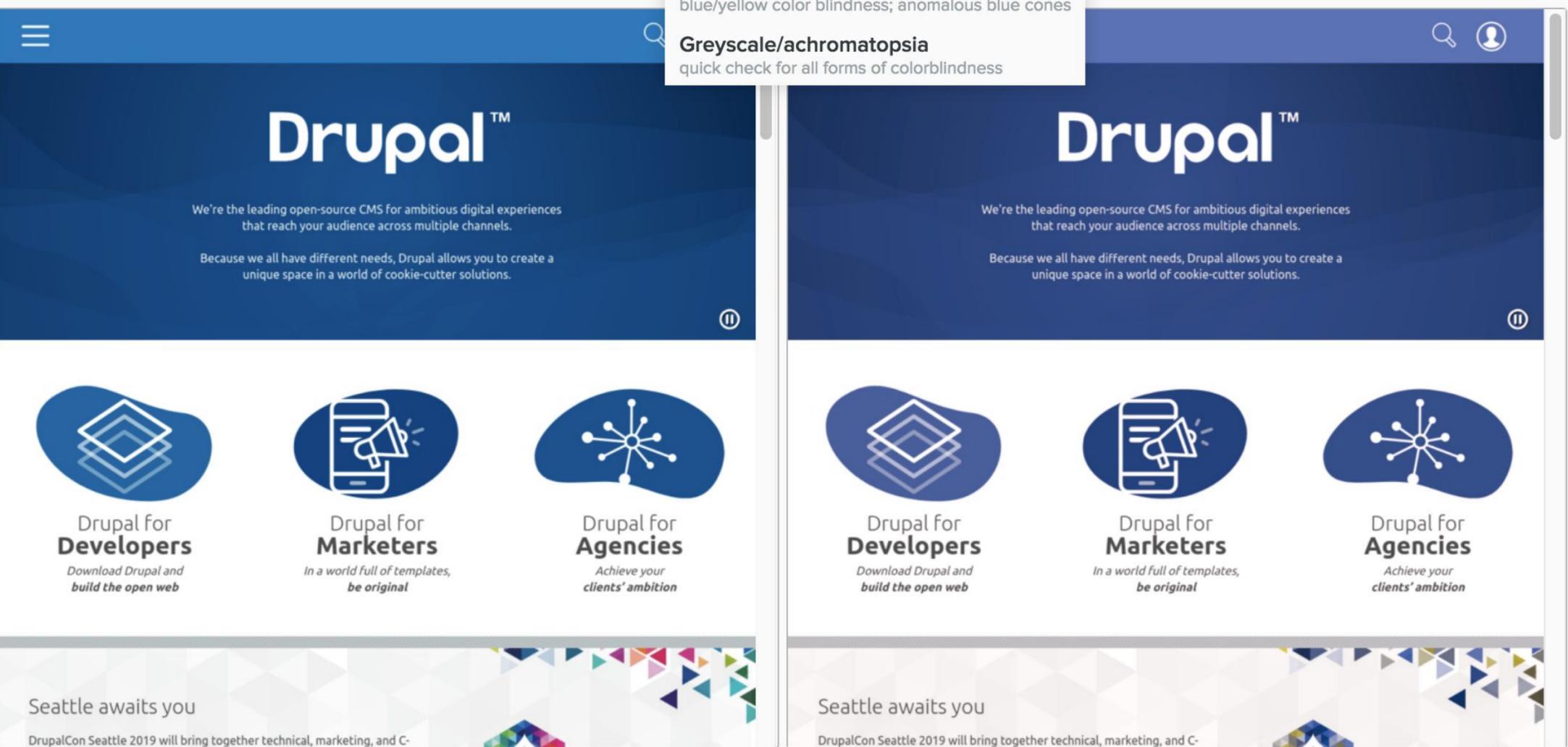
Protanopia
red/green color blindness; anomalous red cones

Deutanopia
red/green color blindness; anomalous green cones

Tritanopia
blue/yellow color blindness; anomalous blue cones

Greyscale/achromatopsia
quick check for all forms of colorblindness

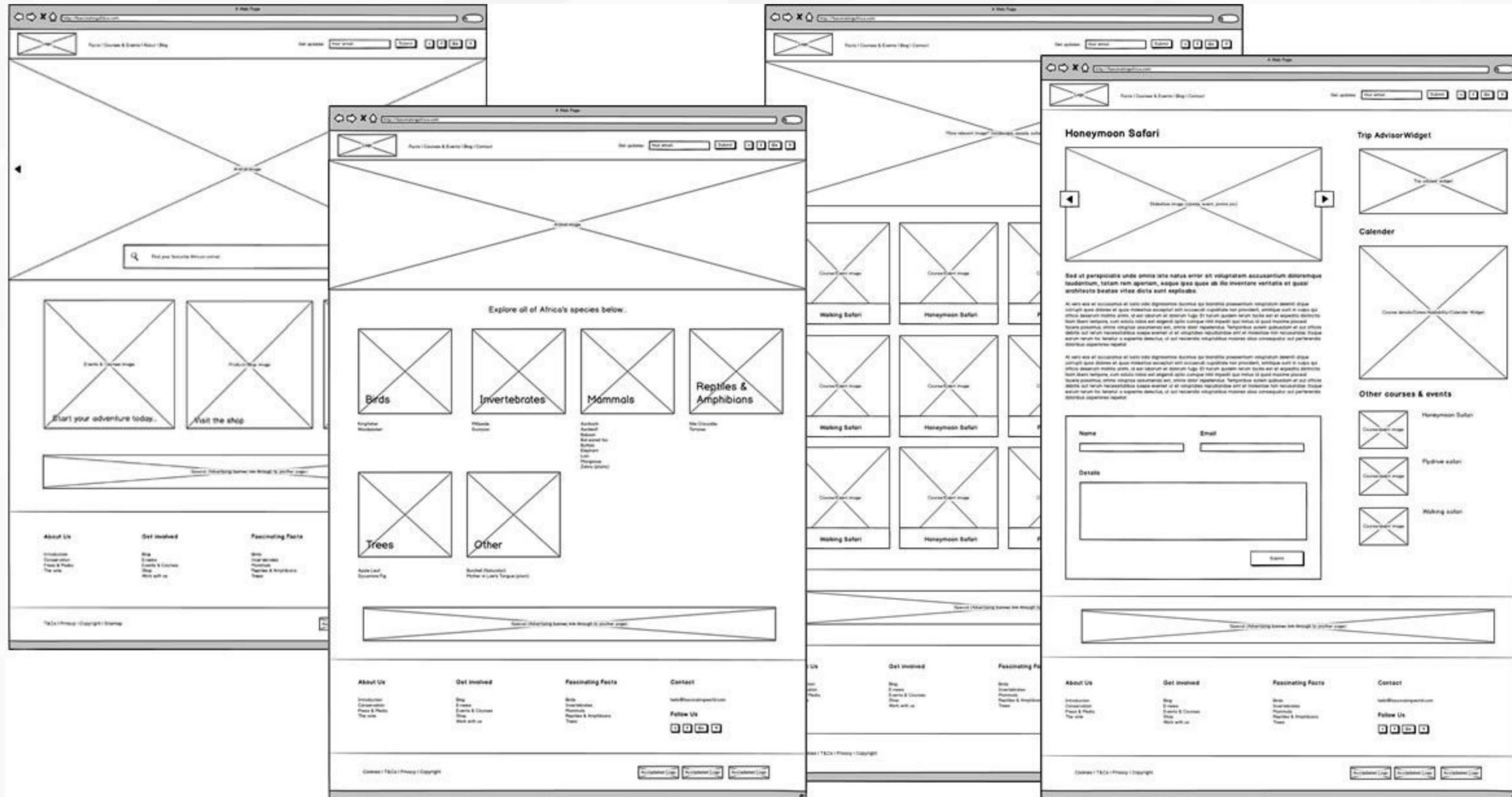
FETCH AND FILTER!



Seattle awaits you
DrupalCon Seattle 2019 will bring together technical, marketing, and C-

● Ready Copy filtered page URL

Test Wireframes



Contrast Checker (Config)

CONTRAST CHECKER

COURTESY OF ACART COMMUNICATIONS

COLOR SELECTION ?

SEE GRAYSCALE

FOREGROUND

C5D8E6 

Sample
12px

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy eiusmod rom tempor incididunt ut labore et dolore magna aliqua erat voluptat.

BACKGROUND

043F76 

Sample
18px

Lorem ipsum dolor sit amet, consectetur adipiscing elit

GET FROM IMAGE

RATIO: 7.25

+ ADD TO HISTORY

 Why Drupal? Build Solutions

Drupal™



Select the foreground or background color from the palette above.

Foreground Background



Contrast Checker (Results)

AA ✓ AAA ✓ AA18pt ✓ AAA18pt ✓ COLORS MARGIN ✓ COLOR DIFF 458 ✗

HISTORY

SHARE HISTORY

SAVE PDF

STATUS	FOREGROUND	BACKGROUND	SAMPLE		
AA AAA AA18+ AAA18+ M 458 Ratio: 7.25	#C5D8E6 (197,216,230)	#043F76 (4,63,118)	SAMPLE TEXT sample text	SAMPLE TEXT sample text	✗ REMOVE ↻ SHARE
AA AAA AA18+ AAA18+ F 327 Ratio: 3.11	#C5D8E6 (197,216,230)	#047CBC (4,124,188)	SAMPLE TEXT sample text	SAMPLE TEXT sample text	✗ REMOVE ↻ SHARE

Content Testing

Bold Italic H1 H2 H3 Quote Bullets Numbers Link

Hemingway App makes your writing bold and clear.

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.

You can utilize a shorter word in place of a purple one. Mouse over them for hints.

Adverbs and weakening phrases are helpfully shown in blue. Get rid of them and pick words with force, perhaps.

Phrases in green have been marked to show passive voice.

You can format your *text* with the toolbar.

Paste in something you're working on and edit away. Or, click the Write button and compose something new.

Write Edit

Hemingway Editor

Readability

Grade 6

Good

Words: 133

Show More ▾

2 adverbs, meeting the goal of 2 or fewer.

1 use of passive voice, meeting the goal of 2 or fewer.

1 phrase has a simpler alternative.

1 of 11 sentences is hard to read.

1 of 11 sentences is very hard to read.

Build Correctly vs. Retrofit

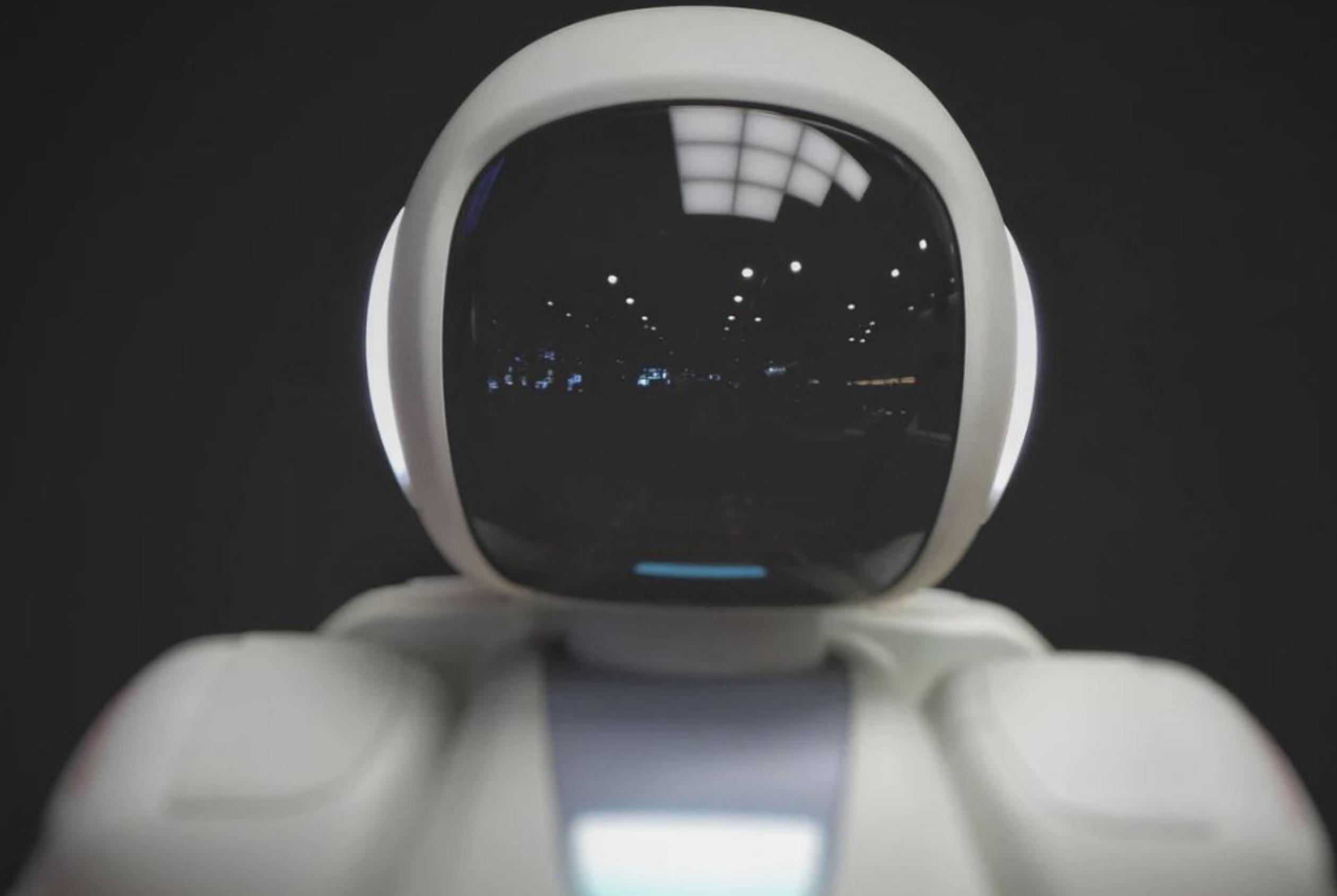
- Do it correctly the first time.
- Start at planning phase.
- Choose ally tech.
- Continue testing through deployment.
- Validate at all steps.
- Continuous testing.





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Validate your source code





chrome

SAMSUNG



Hands On Testing

<https://bit.ly/drupalcon-2019-keyboard>



ATTN
SYS REQ
CURSR SEL
CLEAR
ERASE
ERASE EOF
CURSR BLINK
ALT
IDENT
TEST

PA3 PF1 # @ , % \$ * < . FIELD MARK DUP - / PF2 PF3 PF4
→ + Q W | E) R T Y U B I 9 O P & P
@ A S V D : F ; G H J K L PF5 PF6
↓ PF9 Z X ? C " = V ! B (N 1 M 2 3 PF7 PF8
RESET DEV CNCL O PF10
ALT ENTER

PA1 PA2
^ a
↑ ↓
← →
↔ ↔



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First, unplug everything



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What to look for



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Skip repeated content



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Fully operable



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Tab in both directions



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Dismiss modals



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Focus constrained



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Focus visible



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Equivalent to hover effects



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Responsive breakpoints



Browser Plugins



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Comprehensive

AXE - fundamental / dev

(<https://www.deque.com/axe/>)

WAVE - everyone else

(<https://wave.webaim.org/extension/>)

Specific Tests

Contrast Ratio Checker

(<https://chrome.google.com/webstore/detail/contrast-ratio-checker/kmicfegjejpginnockfnjpdgeffebdcf>)

Spectrum - Visual Impairments

(<https://chrome.google.com/webstore/detail/spectrum/ofclemegkcmilinpcimpjkhjfgmhieb?hl=en>)



Using Mobile Assistive Tech (If we have time)

<http://bit.ly/drupalcon-2019-mobile-testing>



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Goal: Take a selfie with the screen turned off

(Look at your handout)



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Goal: Take a selfie with
the screen turned off

Use Your Phone





Resources / Links

Other A11y Sessions

Wednesday

- Beyond the Screen Reader - Humanizing Accessibility - 1 pm - 1:30 pm
- Building for diversity and inclusion: a public housing agency experience - 2:30 pm - 3 pm
- Which Accessibility Tools are Right for You? - 4 pm - 4:30 pm

Thursday

- Inclusive Digital Products: Why Web Accessibility Matters - 9 am - 9:30 am
- Using Personas as an Inclusive Design Tool - 9 am - 10:30 am
- Mobile accessibility: the good, the bad and the ugly - 9:45 am - 10:15 am
- Voice Assistants - change how users with disabilities Get Things Done - 1 pm - 1:30 pm



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Join us for contribution opportunities

Friday, April 12, 2019

Mentored Contribution

9:00-18:00
Room: 602

First Time Contributor Workshop

9:00-12:00
Room: 606

General Contribution

9:00-18:00
Room: 6A

#DrupalContributions



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What did you think?

Locate this session at the DrupalCon Seattle website:

<http://seattle2019.drupal.org/schedule>

Take the Survey!

<https://www.surveymonkey.com/r/DrupalConSeattle>

Thank you!



Fin.

