Web Accessibility

November 14, 2011

Charlotte User Experience Meetup Group

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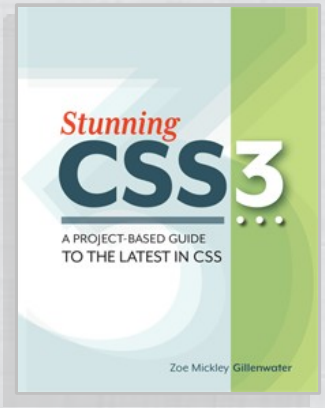
@zomigi

I do CSS stuff



Stunning CSS3:

A Project-based Guide to the Latest in CSS

www.stunningcss3.com

Flexible Web Design:

Creating Liquid and Elastic Layouts with CSS

www.flexiblewebbook.com

And of course accessibility too

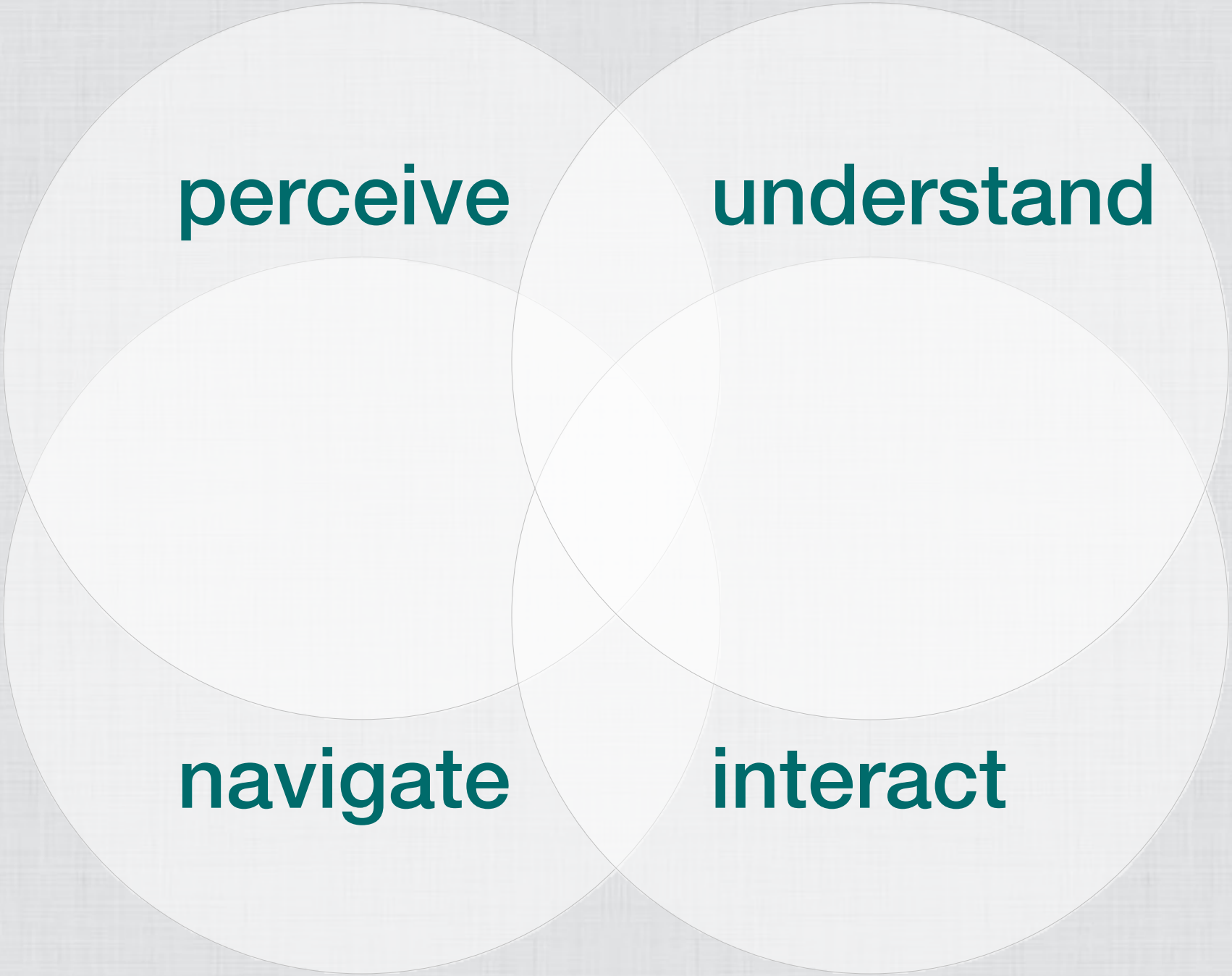
Web Accessibility Principles for lynda.com

Accessibility Specialist on AT&T's Design Standards team

Previously worked for state/federal government

what

is web accessibility


perceive
understand
navigate
interact

Terms of the trade

- “A11y” is abbreviation for “accessibility” (“a” plus 11 letters plus “y”)
- Refer to “people with disabilities” not “disabled people”

who

is affected

Types of disabilities

- **Visual:** blind, low vision, tunnel vision, color blindness...
- **Hearing:** deafness, hard of hearing...
- **Mobility:** arthritis, cerebral palsy, paralysis, muscular dystrophy...
- **Cognitive:** dyslexia, autism...
- **Epilepsy**

54 million

people with disabilities in US

Source: Survey of Income and Program Participation, www.disabilitystatistics.org/faq.cfm#Q9

how

are they affected

Test with screen readers

- NVDA: free, Windows
  - www.nvda-project.org
- VoiceOver: included on Mac and iOS
  - www.apple.com/accessibility/voiceover/
- JAWS: free trial version
  - www.freedomscientific.com
- Window-Eyes: free trial version
  - www.gwmicro.com

why

make web pages accessible

Helping people is the ethical, right thing to do.

In many cases, doing it accessibly is just as easy as doing it inaccessibly. Sometimes easier.

benefits
of accessibility
risks
of inaccessibility

Benefit: number of customers

- 24.8% of US population are disabled (54 million) or over 65 and not yet disabled (23 million)
- 10,000 people turn 65 every day in US
- Baby Boomers own 77% of all financial assets in US

Benefit: search engine ranking

- Keywords in alt text (especially linked images)
- Headings weighted more

Benefit: improved usability

- Often make things easier to use by everyone, especially on mobile

Benefit: easier to maintain

- Cleaner, more consistent HTML
- Easier to apply and change CSS

Risk: litigation

- 2006: Target sued by visually impaired, cost about $10 million
- 2010: Disney sued by visually impaired
- 2011: Netflix sued by deaf
- 2011: CNN sued by deaf

Risk: non-compliance with Section 508

- Required for Federal/Federally-funded sites
- Often followed by local gov't too

Risk: non-compliance with upcoming changes to ADA

- Web accessibility will be added as requirement to ADA (Americans with Disabilities Act)
- Probably going to use WCAG 2.0 Level AA as the standard
- Probably going to become law 2013

"Let me be clear. It is and has been the position of the Department of Justice since the late 1990s that Title III of the ADA applies to Web sites. … Companies that do not consider accessibility in their Web site or product development will come to regret that decision, because we intend to use every tool at our disposal to ensure that people with disabilities have equal access…"

–Thomas Perez

Assistant Attorney General, Civil Rights Division, US Dept. of Justice
excerpt from speech on April 15, 2010

how

to make web pages accessible

Follow WCAG 2.0

- Web Content Accessibility Guidelines created by W3C's Web Accessibility Initiative (WAI)
- Recommendation since 2008
- Broad and testable success criteria
- Three levels: A, AA, AAA

Learning about WCAG 2.0

- Use the “How to Meet WCAG 2.0” customizable quick reference at www.w3.org/WAI/WCAG20/quickref/
- Also check out checklist with examples at http://webaim.org/standards/wcag/checklist

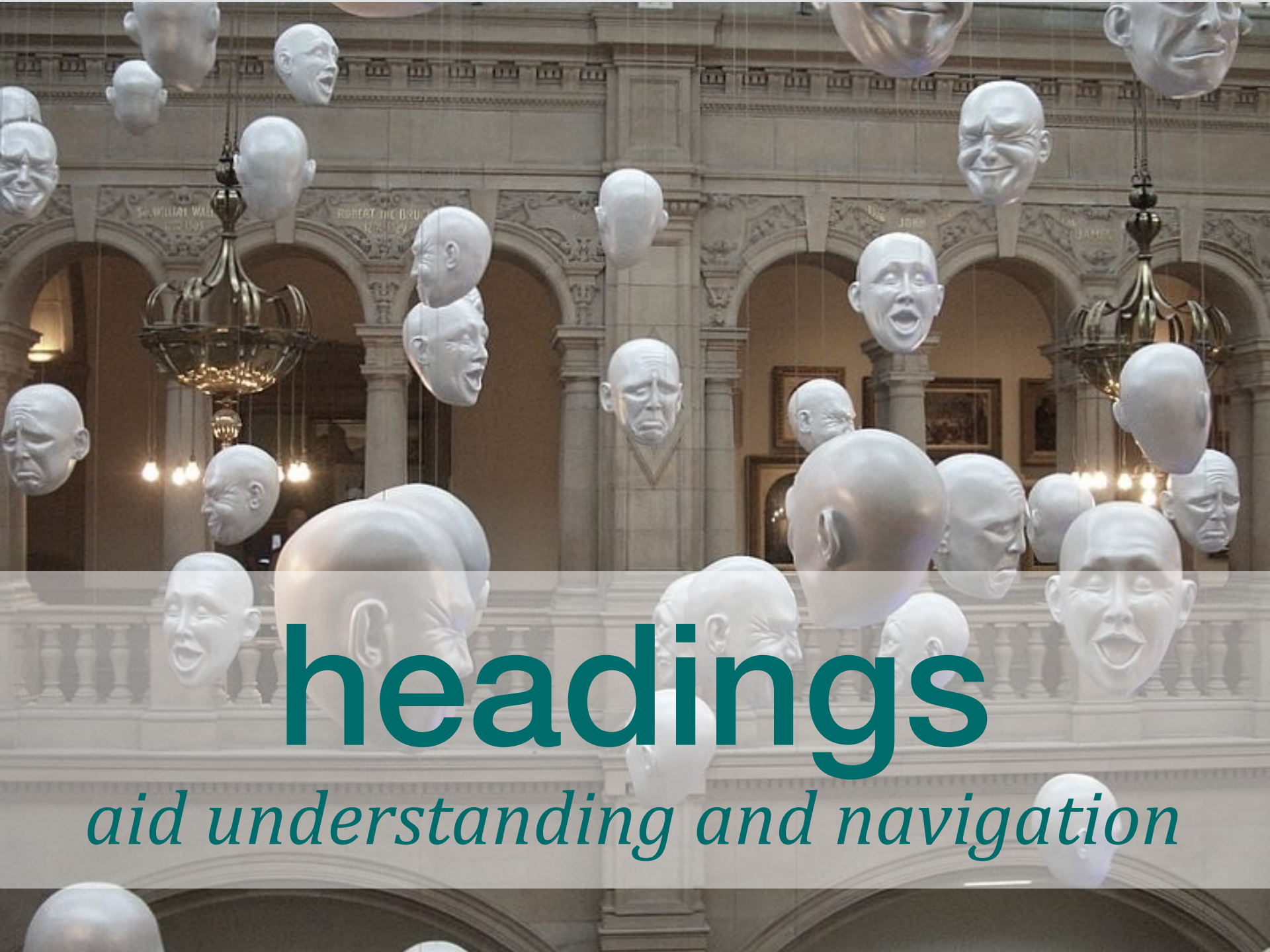
all success criteria are

important

but some techniques will give you a bigger bang for your buck

Let's talk about some a11y techniques that I think:

a) will give you the biggest impact if you must pick and choose
b) I have time to cover today



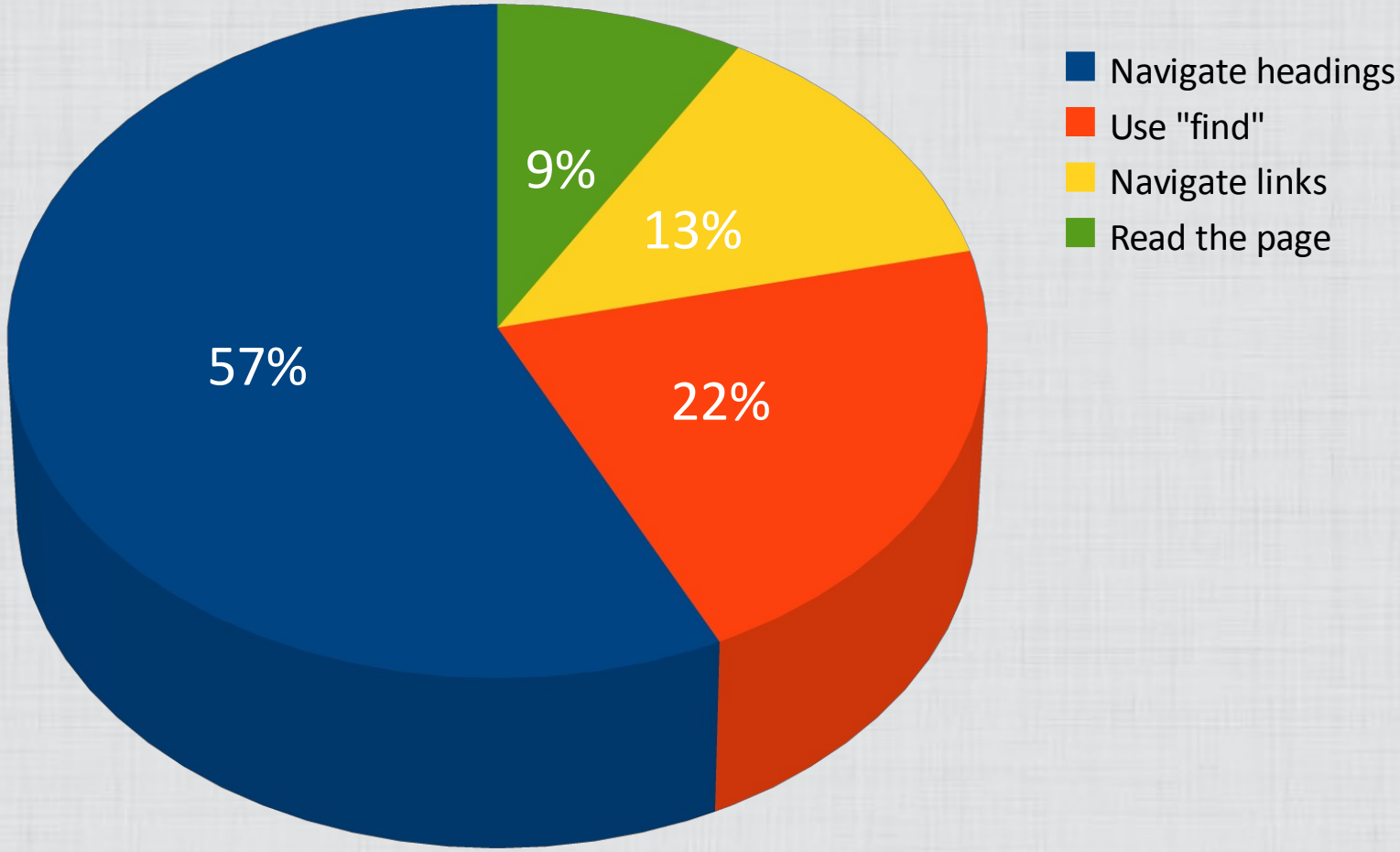
headings

aid understanding and navigation

Headings' purposes:

- Aid understanding of text
- Aid understanding of page structure
- Aid navigation within a page

How screen reader users find content on a lengthy page



Source: WebAIM Screen Reader Survey #3,
http://webaim.org/projects/screenreadersurvey3/#finding

Navigating by headings

- Keyboard shortcuts to jump to next heading or heading of particular level
- View list of all headings in page and choose one to move to

Writing effective heading text

- Keep it brief
- Make it descriptive, meaningful
- Use once per page
- Put most important words first

Good HTML4 heading structure

- Start with `<h1>` for main content's title, and optionally the site name
- Follow `<h1>` with lower levels in logical hierarchy
- Avoid skipping levels
- Be consistent with section-level headings

HTML 4 heading structure

```
<h1>Site Name</h1>
<div id="sidebar">
    <h2>Section Head</h2>
</div>
<div id="content">
    <h1>Main Content Title</h1>
    <p>Text text text</p>
    <h2>Sub-head</h2>
    <p>Text text text</p>
    <h3>Sub-sub-head</h3>
    <p>Text text text</p>
</div>
```

Good HTML5 heading structure

- Use the same structure as HTML 4, or...
- Start hierarchy over inside each sectioning element
  - Spec recommends using only `<h1>` throughout
  - Poor support in browsers and screen readers

HTML5 heading structure

```
<h1>Site Name</h1>
<aside>
   <h1>Section Head</h1>
</aside>
<article>
   <h1>Main Content Title</h1>
   <p>Text text text</p>
   <section>
      <h1>Sub-head</h1>
      <p>Text text text</p>
      <section>
         <h1>Sub-sub-head</h1>
         <p>Text text text</p>
      </section>
   </section>
</article>
```

links

aid understanding and navigation

Navigating by links

- Tab or keyboard shortcuts to jump to next link or link of particular type
- View list of all links in page and choose one to follow

Writing effective link text

- Same guidelines as headings (brief, descriptive, unique, front-loaded)
- Avoid “click here,” “learn more,” etc.
  - If needed, can supplement with words hidden with CSS
  - Don't supplement with `title` attribute

Add “skip navigation” links

- In-page link to let user jump over long or repetitive content (usually primary nav)
- Best to keep visible, as sighted people use them too
- If you must hide them:
  - use CSS that keeps them “visible” to screen readers; see http://yaccessibilityblog.com/library/css-clip-hidden-content.html
  - bring them into view on focus; see http://webaim.org/techniques/skipnav/#focus

Hiding and showing skip links

```
#skip a {
   position: absolute;
   text-indent: -999em;
}
#skip a:active, #skip a:focus {
   text-indent: 0;
}
```

images

convey content in alt text

saying

“alt tag”

makes baby kittens cry

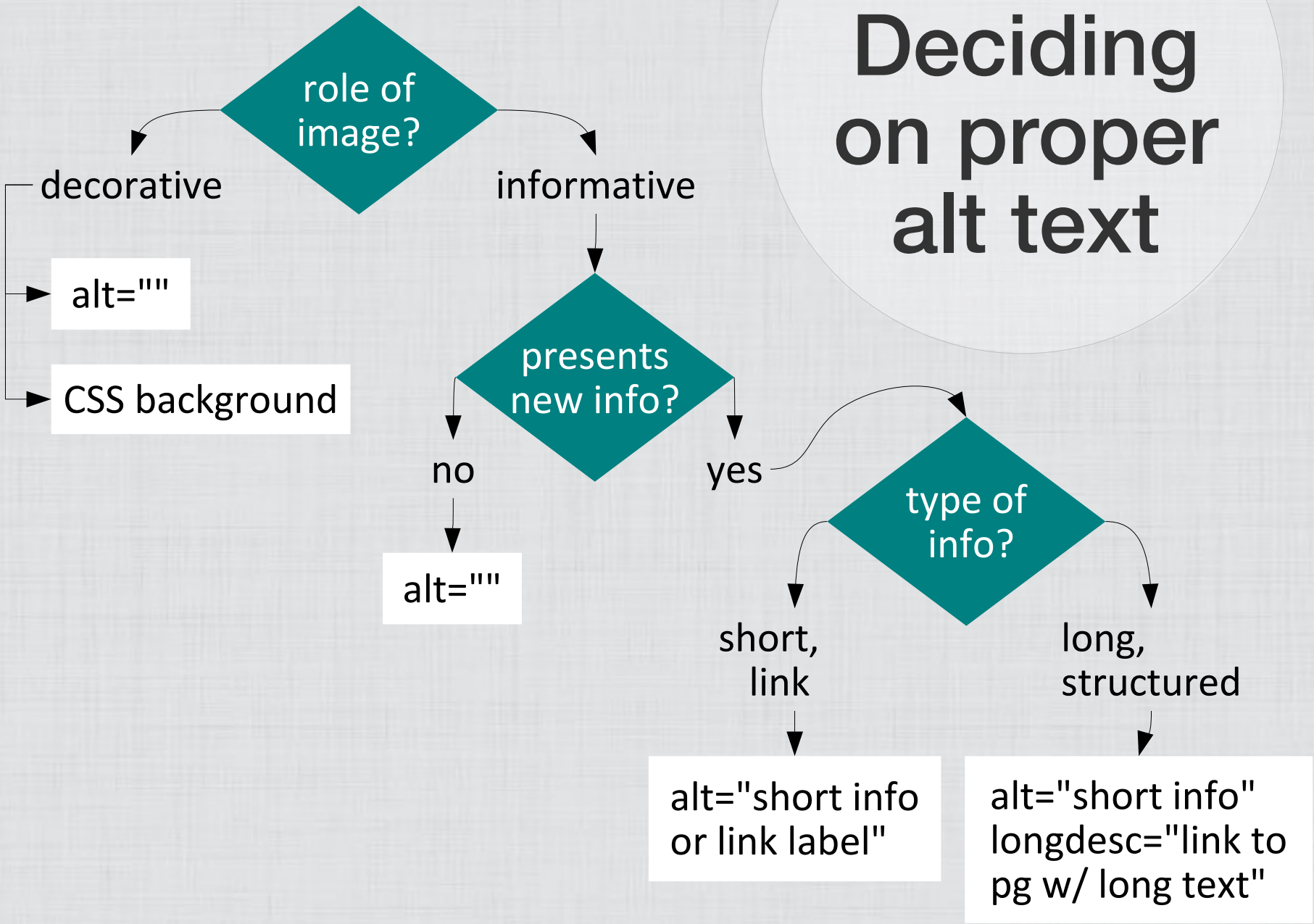
Where `alt` attribute is required

- `<img>` element
- `<area>` element (inside image maps)
- `<input type="image">`

Universal alt text guidelines

- Don't describe the image; provide a text equivalent of its content
- Keep it brief, but make sure they get everything that's relevant
- If nothing's relevant, use empty `alt`

Deciding on proper alt text



Adapted from www.4syllables.com.au/2010/12/text-alternatives-decision-tree/

Decorative images

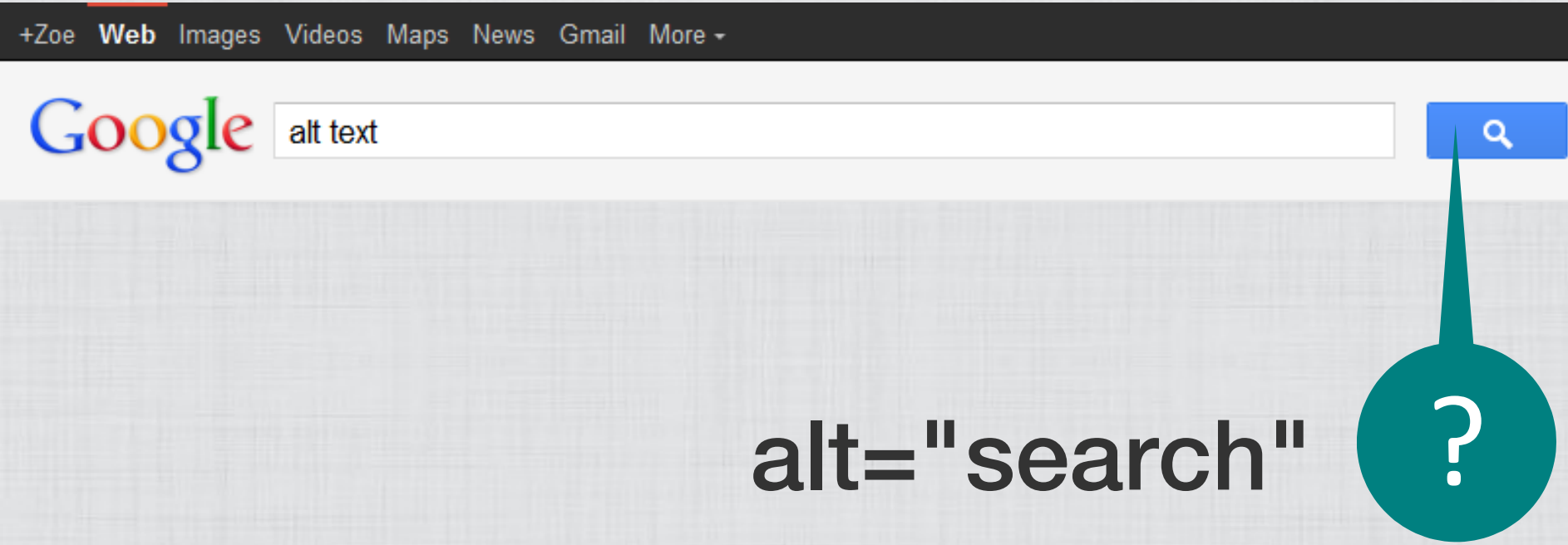
- Using `alt=""` makes screen reader skip over them
- Examples:
  - dividing lines
  - bullets
  - cliché smiling customers, business people shaking hands, etc.

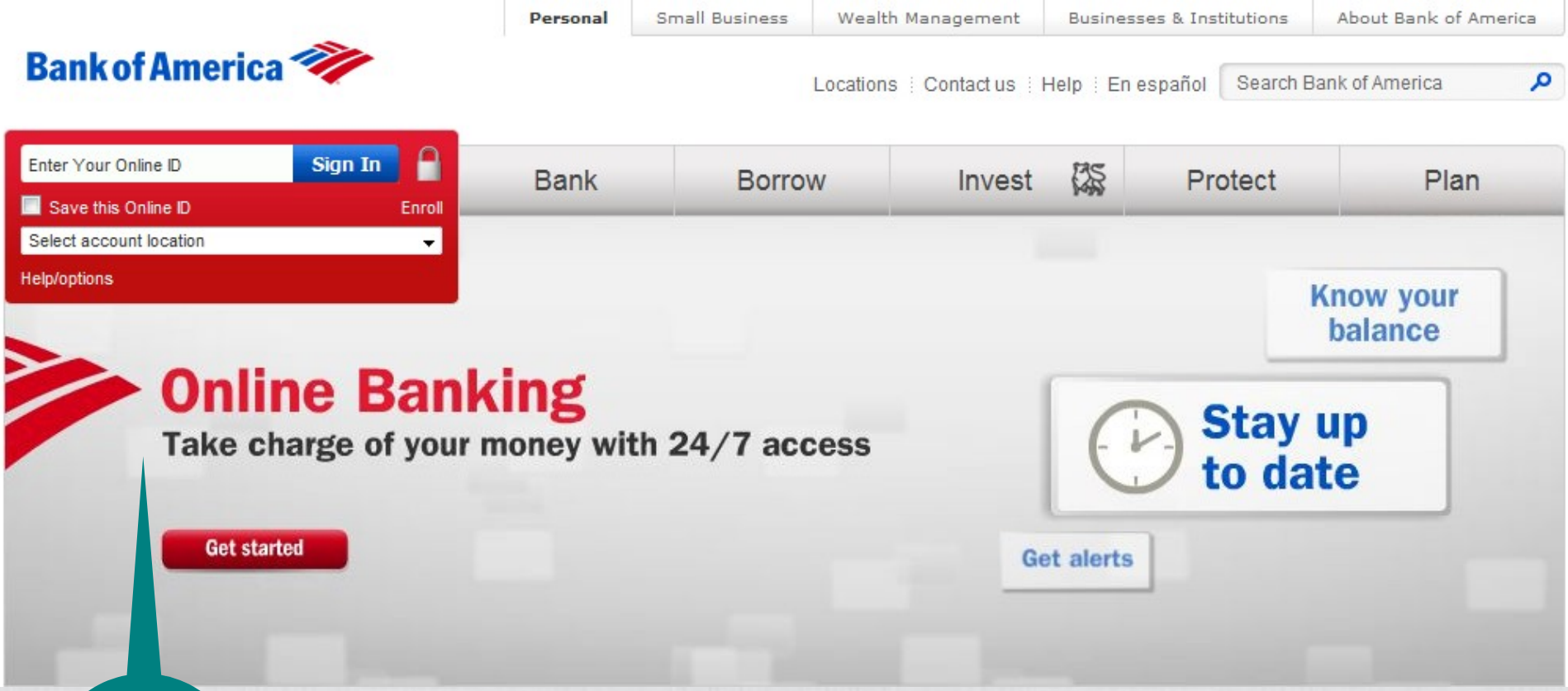
Informational images

- If its text equivalent already on page, use `alt=""` so screen reader doesn't hear twice
- If providing new information, put that in `alt` attribute
  - If image shows text (eg, graphic button, ad banner), use same text for alt
  - If image is link, describe where link goes

pop quiz

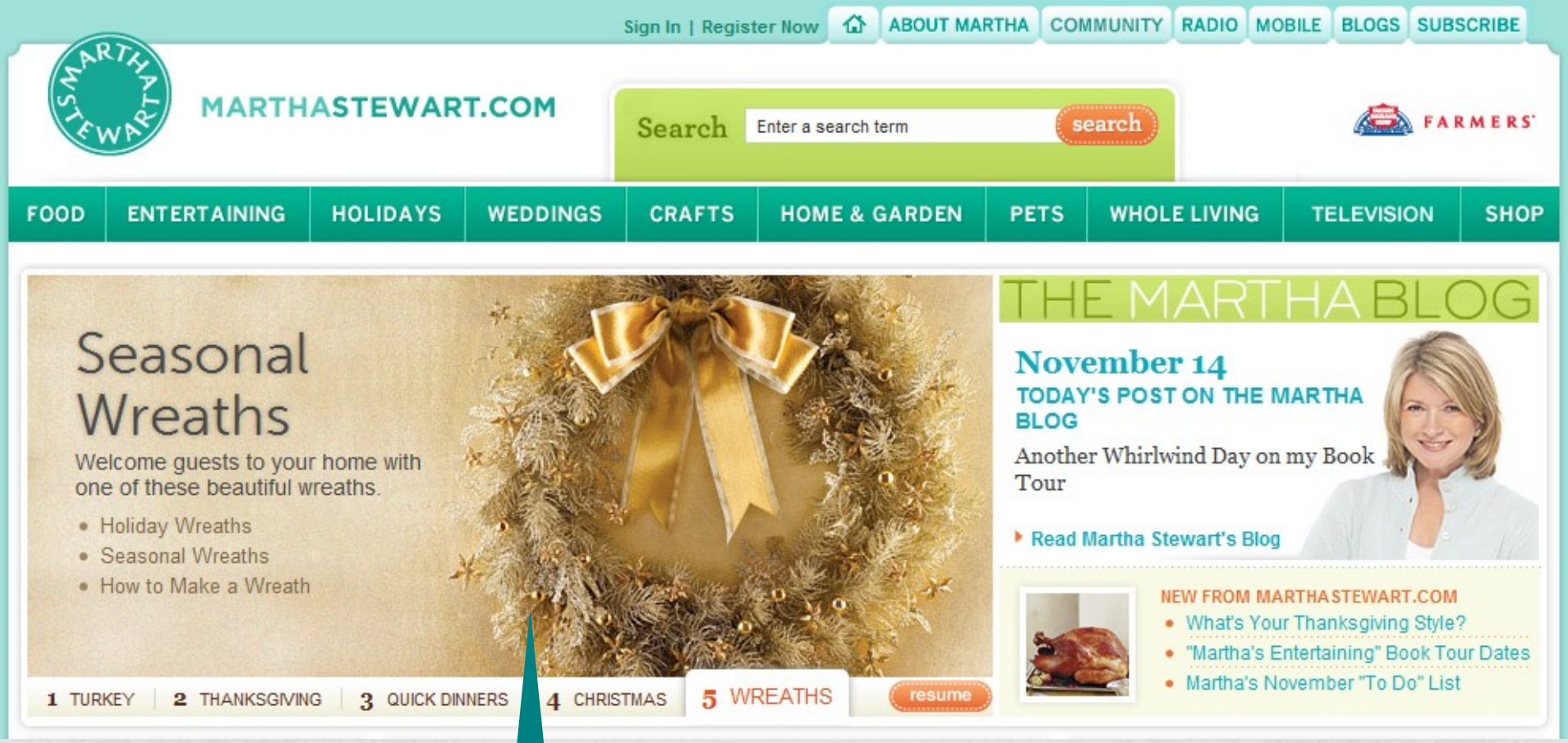
on image alt text examples


+Zoe Web Images Videos Maps News Gmail More
Google
alt text
alt="search"
?



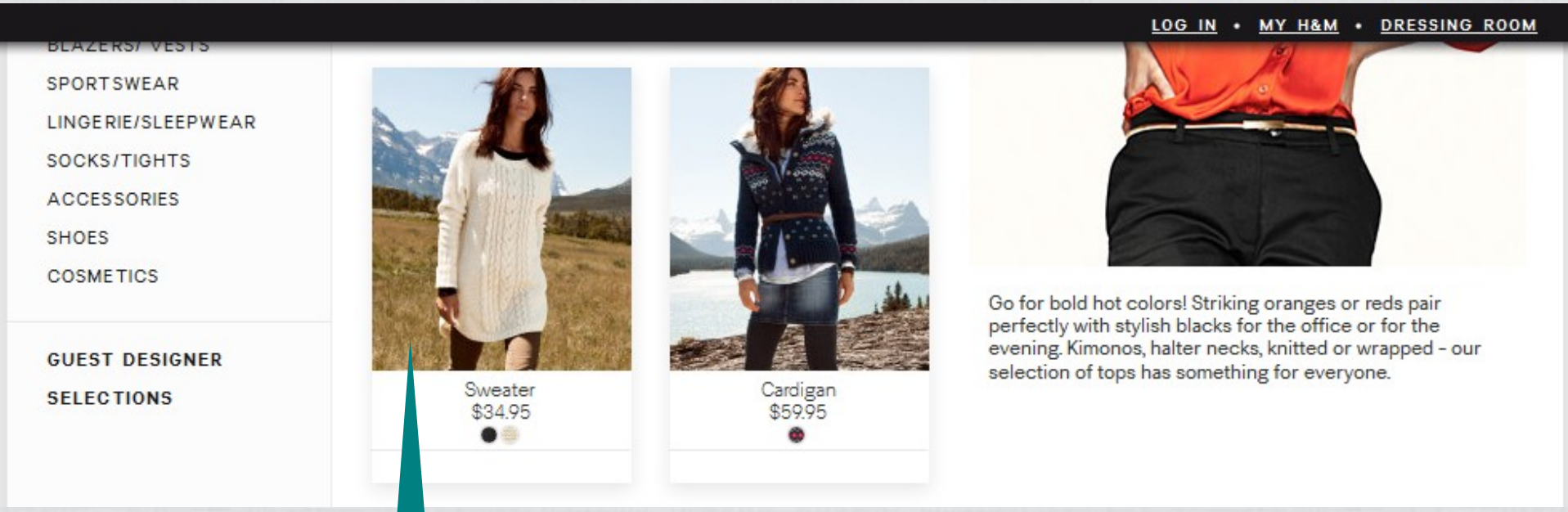
?

alt="Online Banking. Take charge of your money with 24/7 access. Stay up to date, know your balance, get alerts. Get started."


Sign In | Register Now
ABOUT MARTHA
COMMUNITY
RADIO
MOBILE
BLOGS
SUBSCRIBE
MARTHASTEWART.COM
Search
Enter a search term
search
FARMERS
FOOD
ENTERTAINING
HOLIDAYS
WEDDINGS
CRAFTS
HOME & GARDEN
PETS
WHOLE LIVING
TELEVISION
SHOP
Seasonal Wreaths
Welcome guests to your home with one of these beautiful wreaths.
Holiday Wreaths
Seasonal Wreaths
How to Make a Wreath
1 TURKEY
2 THANKSGIVING
3 QUICK DINNERS
4 CHRISTMAS
5 WREATHS
resume
THE MARTHA BLOG
November 14
TODAY'S POST ON THE MARTHA BLOG
Another Whirlwind Day on my Book Tour
Read Martha Stewart's Blog
NEW FROM MARTHASTEWART.COM
What's Your Thanksgiving Style?
"Martha's Entertaining" Book Tour Dates
Martha's November "To Do" List

?

alt=""



?

alt="long ivory cable knit sweater with rounded hem"

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United States

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HM.COM / LADIES / TOPS / SWEATERS / SWEATER

Sweater $34.95

DESCRIPTION
Long cable-knit sweater with a rounded hem.

DETAILS
55% wool, 15% polyamide, 30% viscose. Hand wash cold
Imported.

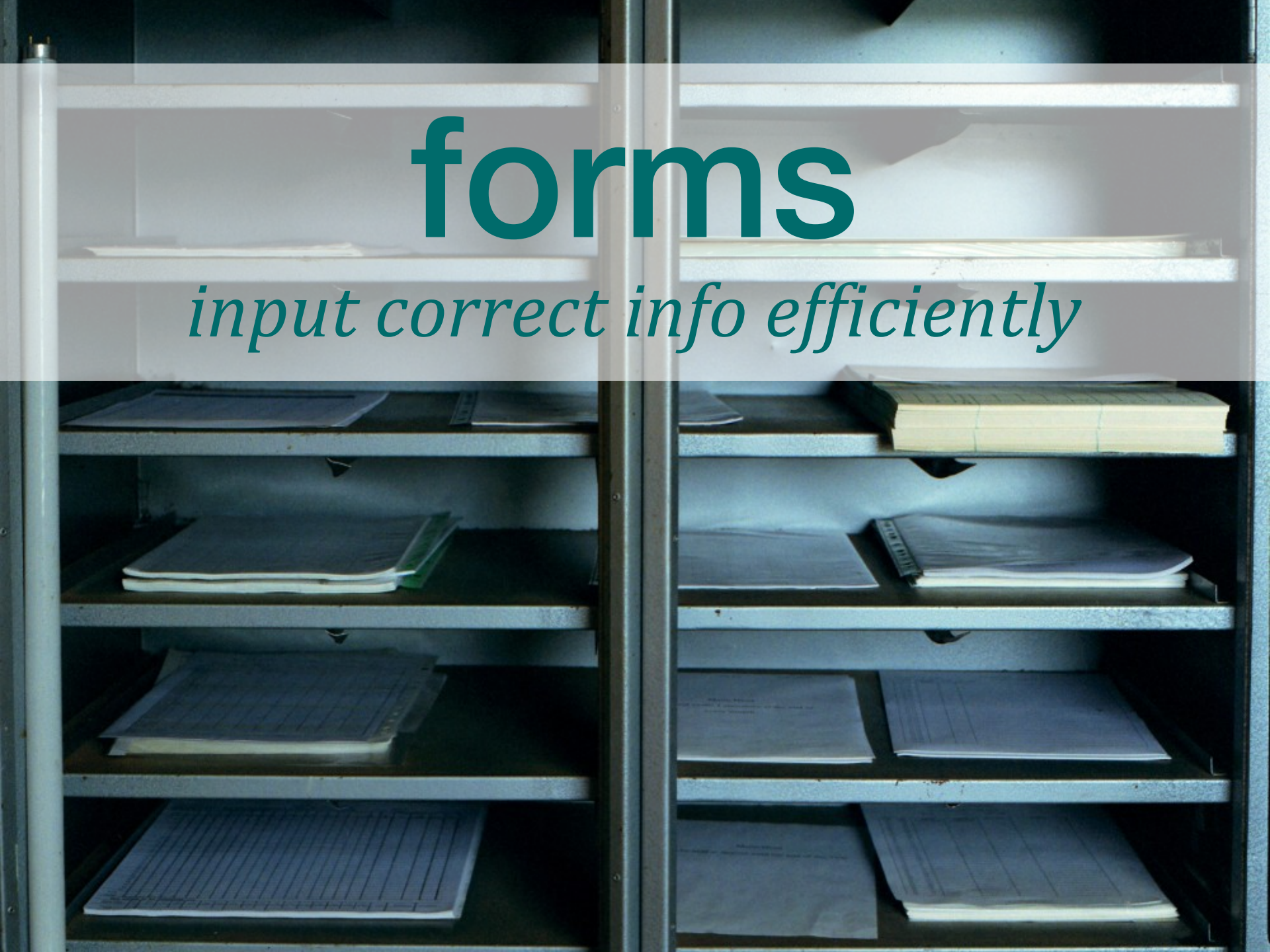
COLOR: Natural white

SIZE: XS - L

SIZE GUIDE

Online shopping is not currently offered in your market. Please visit your local H&M for availability. Please note that colours and sizes may have varied availability in our stores.

? alt=""



forms

input correct info efficiently

Associate fields with labels

- Helps:
  - screen reader users know what to put in each field
  - mobility-impaired users click on small fields
- Set `for` attribute on `label` to ID of field
  - `<label for="city">City</label>`
    `<input type="text" name="city" id="city">`

When you can't use `label`

- Several fields labeled by one piece of text (eg, a date, a Social Security number, fields in a table)
- Labeling text is placeholder text within field (eg, search field)

Alternatives to `label`

- Add `labels` for each field, hide those you don't want seen with off-screen CSS
- Use `label` but position over field to create appearance of placeholder text
- Use `title` attribute on field
- Use `aria-labelledby` or `aria-label`
  - `<span id="foo">Foo</span>`
    `<input type="text" name="foo"`
    `aria-labelledby="foo">`
  - `<input type="text" name="foo"`
    `aria-label="Insert foo here">`

homework

other stuff you should learn about

Keyboard-only operation

- Everything should work and be understandable without a mouse
  - Natively focusable controls
  - `tabindex` set to 0 or -1
  - Device-independent JavaScript events
- Flow of page should be logical
- Focus should be visible

WAI-ARIA

- Landmark roles to label page sections
- Widget roles, states, and properties to make interactive controls more usable
- Live regions to announce changing page content to screen readers
- Learn more, see demos, etc, at https://developer.mozilla.org/en/ARIA

Color issues

- Don't use color as only way of conveying a piece of info (eg, required fields)
- Ensure adequate color contrast for low vision users, but not too much for dyslexic users
  - http://blackwidows.co.uk/resources/color-contrast-analyser.php
  - http://www.d.umn.edu/itss/support/Training/Online/webdesign/tools.html#colortools

Learn more

Download slides, see more resources at www.zomigi.com/blog/web-accessibility-presentation-resources

Questions?

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