

Accessibility Regulations

- Several laws affect technology accessibility
 - Rehabilitation Act of 1973
 - Americans with Disabilities Act
 - Individuals with Disabilities Education Act
 - Telecommunications Act of 1996
 - Section 508 Amendment to the Rehabilitation Act
- Different or additional regulations in individual states and other countries

Assistive Technologies: Visual

Braille Displays



Assistive Technologies: Visual

Screen Readers and Magnifiers



Assistive Technologies: Visual

Phones



Additional Assistive Technologies

- Hearing
 - Technologies that turn sounds into visual or other senses
- Motor
 - Oversized input devices, head/mouth wands, eye tracking
- Cognitive
 - Small, but growing thanks to DIY

Assistive / Adaptive Technology



Problems with Assistive Technology

- High Cost
 - Small population size leads to low purchasing power.
 - Innovation is high risk.
- Adapt to Visual Medium
 - Assistive technology is built to adapt to a visual first medium.
 - This leads to a lot of noise.

How Do We Solve This?

Design Considerations

- Don't rely on visual communication
 - Provide descriptive text
- Start with accessibility in mind
 - Often avoided until needed
- Clear communication
 - Reduce complexity wherever possible

Design Considerations

The screenshot shows the MSNBC website interface. At the top left is the MSNBC logo. Below it is a vertical navigation menu with links: Today show, Nightly News, Dateline NBC, MSNBC Cable, News, Business, Sports, Local, Health, Technology, Living & Travel, TV News, Opinions, Weather, Shop@MSNBC, MSN.com, and Quick News. To the right of the logo is a section titled 'DATELINE NBC' with a bullet point: 'Custody battle: Join the online jury'. Further right, it says 'Updated: 21:22 ET Aug. 24, 1999'. Below the logo is a large blue box with the headline 'Going up! - Fed raises rates; will consumers feel pain?; The Greenspan factor - Republican contenders split over Fed chairman; NASA's next generation - X-rockets readied for space; 911--or your HMO - Whom do you call first?'. To the right of this box is a yellow box with several headlines: 'Storms churning in Atlantic', 'Dennis heads for East Coast', 'The perfect Web address', 'What if your name is taken?', 'Hope for Alzheimer's patients', 'Drug may halt brain damage', 'Caught in the act on TV', and 'Cheaters' chases adulterers'. Below the yellow box are buttons for Chat, Video, Audio, and Tools. At the bottom of the main content area is a search bar with the text 'Search MSNBC' and a 'GO' button. Below the search bar is a form with a red checkmark icon and the text 'Enter zip code to get local news, sports, and weather'. The form has two input fields: 'Zip code' and 'Enter favorite stock symbols', followed by a 'GO' button.

MSNBC

Today show
Nightly News
Dateline NBC
MSNBC Cable

News
Business
Sports
Local
Health
Technology
Living & Travel
TV News
Opinions
Weather
Shop@MSNBC
MSN.com
Quick News

'DATELINE NBC'
Custody battle:
Join the online jury

Updated: 21:22 ET Aug. 24, 1999

DOW 11,283.30 -16.46

Going up! - Fed raises rates; will consumers feel pain?; The Greenspan factor - Republican contenders split over Fed chairman; NASA's next generation - X-rockets readied for space; 911--or your HMO - Whom do you call first?

Storms churning in Atlantic
Dennis heads for East Coast
The perfect Web address
What if your name is taken?
Hope for Alzheimer's patients
Drug may halt brain damage
Caught in the act on TV
Cheaters' chases adulterers

Chat Video Audio Tools

Search MSNBC GO

Enter zip code to get local news, sports, and weather

Zip code Enter favorite stock symbols GO

Cover | News | Business | Sports | Local | Health | Technology | Living & Travel | TV News | Opinions
Weather | Shopping | MSN | Quick News | Comics | Find | About MSNBC | Help | Cool Tools
Jobs | Write Us | Index | Advertising on MSNBC | Y2K Statement | Terms, Conditions, and Privacy

Design Considerations

The screenshot displays the WAVE (Web Accessibility Evaluation Tool) interface. On the left, a sidebar shows the tool's logo and a summary of detected issues: 36 Errors (red), 10 Alerts (yellow), 12 Features (green), 13 Structural Elements (blue), 0 HTML5 and ARIA (purple), and 0 Contrast Errors (black). Below this, 'Panel Options' include 'DETAILS', 'DOCUMENTATION', and 'OUTLINE'. The main area shows a preview of the evaluated page, which is an MSNBC website. The page features the MSNBC logo, a navigation menu with links like 'Today show', 'Nightly News', 'Dateline NBC', and 'MSNBC Cable', and a main content area with headlines such as 'Going up! - Fed raises rates; will consumers feel pain?' and 'Storms churning in Atlantic'. The WAVE tool overlays various icons on the page preview, indicating accessibility issues. A top bar shows the URL 'https://web.archive.org/web/19990821' and the date 'Updated: 21:22 ET Aug. 24, 1999'. A message at the top right states 'The following apply to the entire page:'.

WAVE
web accessibility evaluation tool

https://web.archive.org/web/19990821

Styles No Styles Contrast

Summary

WAVE has detected the following:

- 36 Errors
- 10 Alerts
- 12 Features
- 13 Structural Elements
- 0 HTML5 and ARIA
- 0 Contrast Errors

Panel Options

- DETAILS: A listing of all the WAVE icons in your page.
- DOCUMENTATION: Explanation of the WAVE icons and how you can make your page more accessible.
- OUTLINE: The heading structure of the web page.

The following apply to the entire page:

Updated: 21:22 ET Aug. 24, 1999

MSNBC

Today show
Nightly News
Dateline NBC
MSNBC Cable

News
Business
Sports
Local
Health
Technology

Going up! - Fed raises rates; will consumers feel pain?; The Greenspan factor - Republican contenders split over Fed chairman; NASA's next generation - X-rockets readied for space; 911--or your HMO - Whom do you call first?

DOW
alt
X2
11,283.30 -16.46
Stock Market News

DATeline NBC
Custody battle: Join the online jury

Storms churning in Atlantic

Source: <http://wave.webaim.org/>

**I NEED YOU TO STAY LATE
TONIGHT**

**WE REALLY HAVE TO CATCH
THAT RED DOT**

Example



Use 'alt' attribute

Screen readers use this text to auditorily communicate the content of the image.

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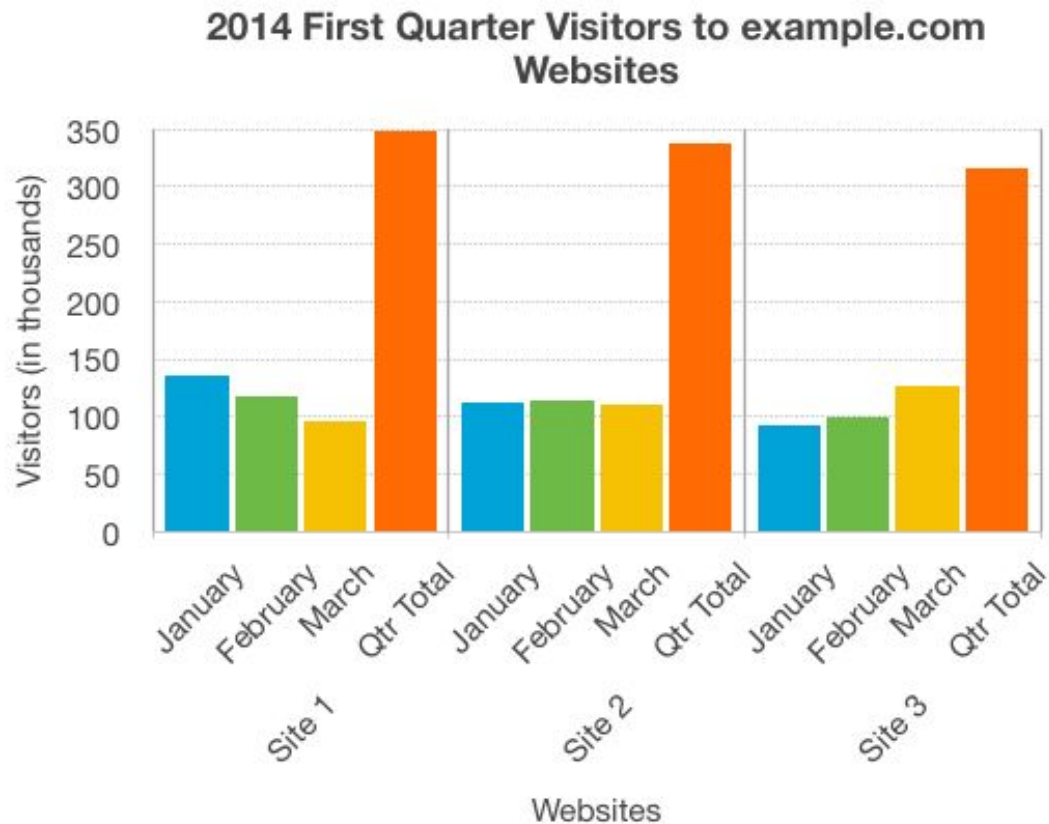
A Better Example

Use Semantic HTML 5

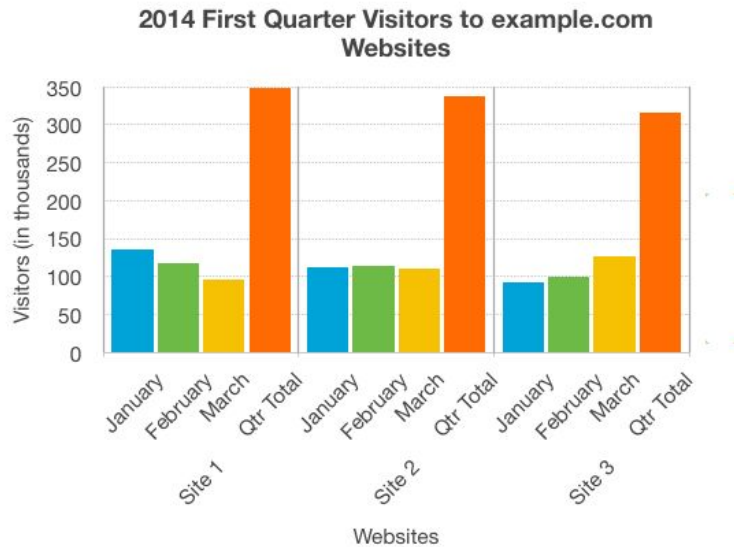


```
<figure role="group">  
    
  <figcaption>  
    I need you to stay late tonight. We really have to  
    catch that red dot.  
  </figcaption>  
</figure>
```


A Real Problem



A Real Problem



[Image Description](#)

<p>

Image Description

</p>

Source: <https://www.w3.org/WAI/tutorials/images/complex/>

Description Page

Overview

The chart shows the website hits for the first quarter of 2014. It shows that Site 1 has more visitors than either of the other sites, but the number of visitors is decreasing. Site 2 has a fairly constant number of visitors, while for Site 3 page hits are increasing month on month.

Values

Numerical values presented on the image:

2014 First Quarter visitors per site (in thousands)

Period	Site 1	Site 2	Site 3
Jan	135	112	92
Feb	117	114	99
Mar	96	111	126
Qtr total	348	337	308

Presentation

The bar chart represents both the number of visitors per month for each website, and the total number of visitors per website for the entire quarter. Website visitors for each month are represented using columns lined up horizontally, with heights indicating the number of visitors. A fourth column is provided for each website with the accumulated site visitors for the quarter.

