



CDS www.media.cds.hawaii.edu  
MEDIA CENTER

Webinar Series:  
**Accessibility & the Web**

# Exploring an Accessible Web

CDS Media Center Webinar Series

<http://www.media.cds.hawaii.edu/>  
<http://tinyurl.com/a4m4z3g>



UNIVERSITY OF HAWAII AT MĀNOA  
**College of Education**



UNIVERSITY of HAWAII®  
MĀNOA

# Agenda

- 1. Define Web Accessibility**
- 2. Review Section 508 Regulations**
- 3. Discuss Strategies for Compliance**



# Web Accessibility

- a. Define Web Accessibility**
- b. W3C - Tim Berners-Lee**
- c. Content vs. Platform**
- d. Screen Readers**
- e. Style Sheets**
- f. Captioned Videos**



# Web Accessibility

## Define Web Accessibility vs. Assistive Technology



<http://tinyurl.com/az9a5px>

[http://resources.fahcsia.gov.au/videos/web\\_accessibility\\_video.mp3](http://resources.fahcsia.gov.au/videos/web_accessibility_video.mp3)



# Web Accessibility Defined examples

"refers to the [inclusive practice](#) of making [websites](#) usable by people of all abilities and [disabilities](#). When sites are correctly designed, developed and edited, all users can have equal access to information and functionality."

"[WAI-ARIA](#) (Accessible Rich Internet Applications) is a specification published by the [World Wide Web Consortium](#) that specifies how to increase the [accessibility](#) of [dynamic content](#) and [user interface components](#) developed with [Ajax](#), [HTML](#), [JavaScript](#) and related technologies."



# Web Accessibility Defined examples

The needs that Web accessibility aims to address include:

- ï **Visual:** [Visual impairments](#) including [blindness](#), various common types of [low vision](#) and poor eyesight, various types of [color blindness](#);
- ï **Motor/Mobility:** e.g. difficulty or inability to use the hands, including tremors, muscle slowness, loss of fine muscle control, etc., due to conditions such as [Parkinson's Disease](#), [muscular dystrophy](#), [cerebral palsy](#), [stroke](#);
- ï **Auditory:** [Deafness](#) or [hearing impairments](#), including individuals who are [hard of hearing](#);
- ï **Seizures:** Photoepileptic [seizures](#) caused by visual strobe or flashing effects.
- ï **Cognitive/Intellectual:** [Developmental disabilities](#), [learning disabilities](#) ([dyslexia](#), [dyscalculia](#), etc.), and [cognitive disabilities](#) of various origins, affecting memory, attention, developmental "maturity," problem-solving and logic skills, etc.



# Web Accessibility Defined examples

The accessibility of websites relies on the cooperation of eight components:

1. the website itself - natural information (text, images and sound) and the markup code that defines its structure and presentation
2. user agents, such as web browsers and media players
3. assistive technologies, such as screen readers and input devices used in place of the conventional keyboard and mouse
4. users' knowledge and experience using the web
5. developers
6. authoring tools
7. evaluation tools
8. a defined web accessibility standard, or a policy for your organization (against which to evaluate the accessibility)



# Web Accessibility Defined examples

These components interact with each other to create an environment that is accessible to people with disabilities.

1. Web **developers** usually use **authoring tools** and evaluation tools to create Web **content**.
2. **People** ("users") use Web **browsers**, **media players**, **assistive technologies** or other "**user agents**" to get and interact with the **content**.





# **Web Accessibility Simplified**

- 1. Screen Reader (Style Sheets)**
- 2. Navigate by keyboard (no mouse)**
- 3. Labeled images & video (captioned!)**



# Web Accessibility Simplified

## What it is...

Screen Reader Usable  
Easy to Read  
page  
User Control Styles  
Clean Design

## is NOT...

Multiple Language Translators  
Mega Information on single  
page  
Adjustable Font Size  
Animated Madness



# Web Accessibility

World Wide Web Consortium (W3C)

Tim Berners-Lee

W3C Video

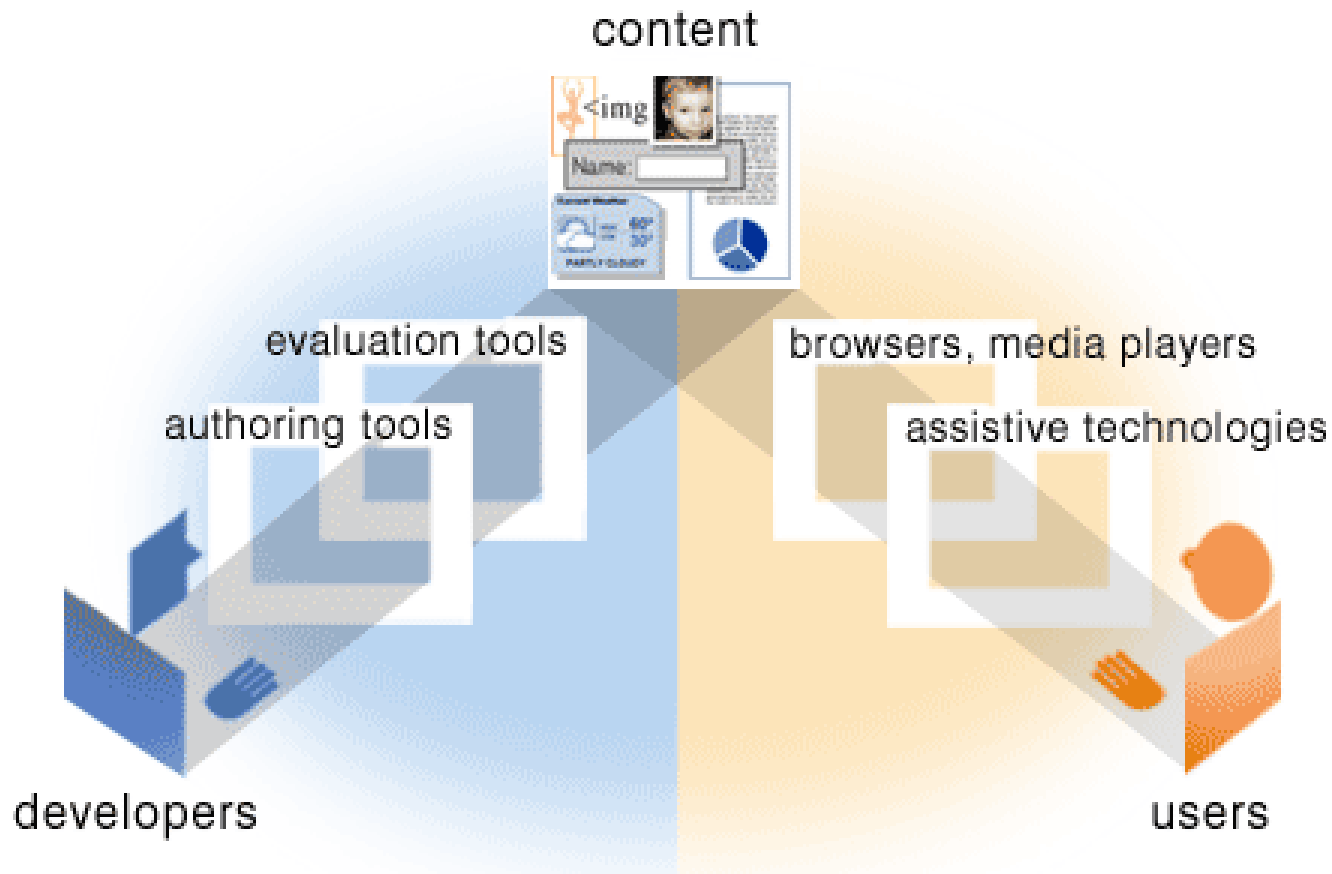


[http://www.w3.org/2011/11/w3c\\_video.html](http://www.w3.org/2011/11/w3c_video.html)



# Web Accessibility

## Content vs. Platform



# Web Accessibility

## Screen Readers (show examples of text)

### No Mark Up with Style Sheet

Using YouTube with a screen readerIntroduction This following information will be helpful for people using screen readers as it explains the steps for using YouTube with screen readers. A screen reader is a software application that identifies and interprets what is being displayed on the computer screen. This information is then presented to a blind user as speech. Visually impaired or blind people use screen readers. This article provides step-by-step process for using YouTube making it easier for a new user to explore YouTube.Please note: The experience of using YouTube may not be same with all screen readers due to inconsistency of support of technology by the various screen readers. To learn more about using YouTube with a screen reader that supports Adobe Flash accessibility extensions, please see this [accessibility feedback page](#).Read on to learn more about using YouTube with a screen-reader and discover which keyboard shortcuts are available for the site:

### Mark Up with Style Sheet

#### Using YouTube with a screen reader

##### Introduction

This following information will be helpful for people using screen readers as it explains the steps for using YouTube with screen readers. A screen reader is a software application that identifies and interprets what is being displayed on the computer screen. This information is then presented to a blind user as speech. Visually impaired or blind people use screen readers. This article provides step-by-step process for using YouTube making it easier for a new user to explore YouTube.

**Please note:** The experience of using YouTube may not be same with all screen readers due to inconsistency of support of technology by the various screen readers. To learn more about using YouTube with a screen reader that supports Adobe Flash accessibility extensions, please see this [accessibility feedback page](#).

Read on to learn more about using YouTube with a screen-reader and discover which keyboard shortcuts are available for the site:



# **Web Accessibility Style Sheets**

## **Accessible Documents**

- a. Adobe PDF**
- b. Microsoft Word**

## **Accessible Web Sites**

- a. CSS (Cascading Style Sheets)**





# Section 508 Regulations





# Section 508 Regulations

## **Principal Deputy Assistant Attorney General for Civil Rights Samuel R. Bagenstos Testifies Before the House Judiciary Subcommittee on the Constitution, Civil Rights and Civil Liberties**

~ Thursday, April 22, 2010

Chairman Nadler, Ranking Member Sensenbrenner, and Members of the Subcommittee, it is an honor to appear before you today to discuss the rights of individuals with disabilities to have access to emerging technologies. The Civil Rights Division enforces the Americans with Disabilities Act ("ADA") and Section 504 of the Rehabilitation Act, and we have a substantial role in implementing Section 508 of the Rehabilitation Act. Pursuant to these statutes, access to the Internet and emerging technologies is not simply a technical matter, but a fundamental issue of civil rights. As more and more of our social infrastructure is made available on the Internet - in some cases, exclusively online - access to information and electronic technologies is increasingly becoming the gateway civil rights issue for individuals with disabilities.



# Section 508 Regulations

## ADA vs. Section 508

June 29, 2010

### **Dear College or University President:**

We write to express concern on the part of the Department of Justice and the Department of Education that colleges and universities are using electronic book readers that are not accessible to students who are blind or have low vision and to seek your help in ensuring that this emerging technology is used in classroom settings in a manner that is permissible under federal law. A serious problem with some of these devices is that they lack an accessible text-to-speech function. Requiring use of an emerging technology in a classroom environment when the technology is inaccessible to an entire population of individuals with disabilities—individuals with visual disabilities—is discrimination prohibited by the Americans with Disabilities Act of 1990 (ADA) and Section 504 of the Rehabilitation Act of 1973 (Section 504) unless those individuals are provided accommodations or modifications that permit them to receive all the educational benefits provided by the technology in an equally effective and equally integrated manner.

The Departments of Justice and Education share responsibility for protecting the rights of college and university students with disabilities. The Department of Justice is responsible for enforcement and implementation of title III of the ADA, which covers private colleges and universities, and the Departments of Justice and Education both have enforcement authority under title II of the ADA, which covers public universities. In addition, the Department of Education enforces Section 504 with respect to public and private colleges and universities that receive federal financial assistance from the Department of Education. As discussed below, the general requirements of Section 504 and the ADA reach equipment and technological devices when they are used by public entities or places of public accommodation as part of their programs, services, activities, goods, advantages, privileges, or accommodations.

U.S. Department of Justice & Education, Civil Rights Divisions



# Section 508 Regulations

## ADA vs. Section 508

June 29, 2010

Dear College or University President:

The Department of Justice recently entered into settlement agreements with colleges and universities that used the **Kindle DX, an inaccessible, electronic book reader, in the classroom as part of a pilot study with Amazon.com, Inc.** In summary, the **universities agreed not to purchase, require, or recommend use of the Kindle DX, or any other dedicated electronic book reader, unless or until the device is fully accessible** to individuals who are blind or have low vision, or the **universities provide reasonable accommodation or modification so that a student can acquire the same information, engage in the same interactions, and enjoy the same services as sighted students with substantially equivalent ease of use.** The texts of these agreements may be viewed on the Department of Justice's ADA Web site, [www.ada.gov](http://www.ada.gov).

U.S. Department of Justice & Education, Civil Rights Divisions

[www.ada.gov/kindle\\_itr\\_eddoj.htm](http://www.ada.gov/kindle_itr_eddoj.htm)



# Section 508 Regulations

## ADA vs. Section 508

One year later, on **May 26, 2011**, as a follow-up to this Dear Colleague Letter, ED issued a Frequently Asked Questions document regarding the **legal obligations of schools** (both elementary/secondary and post-secondary) under Section 504 of the Rehabilitation Act of 1973 (Section 504) and the Americans with Disabilities Act (ADA) in the use of emerging technology.

The FAQ also clarified that the principles articulated in the earlier DCL apply in other contexts as well—namely: (1) to students with print disabilities other than visual impairments, including students with learning disabilities; (2) to elementary and secondary schools, in addition to post-secondary institutions; (3) to *all* faculty and staff, not merely to the Section 504 or ADA coordinator; and (4) to forms of emerging technology beyond electronic book readers as well as to online programs, including applications for admission, class assignments, and housing, and to pilot programs of short duration.

The FAQ further pointed out that the use of emerging technology in schools should always include planning for accessibility from the outset, even if there are no students with visual impairments at the school. In addition, the FAQ advised schools—in deciding whether to create or acquire emerging technology—to include accessibility analyses as part of their acquisition procedures. Toward this end, the FAQ proposed a series of questions for schools to consider in determining whether emerging technology is accessible and in reviewing the adequacy of particular accommodations or modifications.

Finally, the FAQ noted that traditional alternative media such as books on tape may still be appropriate for students under certain circumstances; however, if the school offers alternative media as an accommodation to an emerging technology, the alternative media must provide access to the same benefits as the technology in an equally effective and equally integrated manner. According to the FAQ, decisions regarding the provision of FAPE to students in elementary and secondary schools, academic adjustments and auxiliary aids to students at the post-secondary level must be individualized..



# Section 508 Regulations

## Section 508 text

"With recent advancements in technology, opportunities for communicating with the public have grown exponentially to include not only the Internet as traditionally used to provide information, but also new Internet-based social networking communities where people can respond to information provided to them, such as Facebook, Twitter, MySpace and YouTube. These expansions in technology hold the promise of increased participation for all, but present challenges for the full inclusion of persons with disabilities."



# Strategies for Compliance

## Discuss Strategies for Compliance

- 1. Develop Written Policy**
- 2. W3C Guidelines Checklist**
  - a. WebAim Wave Evaluator**
- 3. Universal Design for Learning (UDL)**
  - a. Principle 1: Multiple Means of Representation**
- 4. Fix main page first**



# Strategies for Compliance

Discuss Strategies for Compliance

Develop Written Policy



Accessibility Info CDS Staff Login Contact Us  
Shopping Cart Site Map

Search:  GO

Follow

About Us Certificate Program Core Activities Pac Rim Products Publications Partners

Browse for CDS Projects

Select a Project:  
 Go!



# Strategies for Compliance

## Discuss Strategies for Compliance

## Develop Written Policy

*Home*

### **CDS Web Accessibility Policy**

It is the policy of the Center on Disability Studies to provide equal access to information and information technology in accordance with [Section 508 of the Rehabilitation Act](#). This means offering equal access to online content and information technology for all users regardless of mode of access.

- [Conformance](#)
- [Assessment Procedures](#)
- [Conformance Claims](#)
- [Enforcement](#)





# Strategies for Compliance

## Discuss Strategies for Compliance

### W3C Guidelines Checklist

#### a. WebAim Wave Evaluator

[www.w3c.org/WAI](http://www.w3c.org/WAI)

[wave.webaim.org](http://wave.webaim.org)





## How to Meet WCAG 2.0

A customizable quick reference to Web Content Accessibility Guidelines 2.0 requirements (success criteria) and techniques

### Introduction

[\[Hide Introduction\]](#)

This document lists all of the requirements (called "success criteria") from [Web Content Accessibility Guidelines \(WCAG\) 2.0](#). It also lists techniques to meet the requirements, which link to more details. The "Understanding" links go to descriptions, examples, and resources.

You can customize the list by selecting the technologies that apply to your Web project, and the [levels](#) and techniques that you want included in the list.

Technology-specific techniques do not supplant the general techniques: content developers should consider both general techniques and technology-specific techniques as they work toward conformance.

**Note:** In some customized views, no techniques will be listed under some headings. This indicates that there are no documented techniques for the technologies chosen.

See the [WCAG Overview](#) for an introduction to WCAG and supporting documents, including more information about this document.

### About the Techniques

### Customize this Quick Reference

#### Technologies:

- Show HTML techniques and failures
- Show CSS techniques and failures
- Show SMIL techniques and failures
- Show Client-side Scripting techniques and failures
- Show Server-side Scripting techniques and failures
- Show Flash techniques and failures
- Show PDF techniques and failures
- Show Silverlight techniques and failures
- Show WAI-ARIA techniques and failures

#### Levels:

- Show Level A Success Criteria
- Show Level AA Success Criteria
- Show Level AAA Success Criteria

#### Sections:

- Show Sufficient Techniques and Failures



Web page address...  
or [upload a file](#)

WAVE this page!

## Welcome to WAVE

WAVE is a free web accessibility evaluation tool provided by [WebAIM](#). It is used to aid humans in the web accessibility evaluation process. Rather than providing a complex technical report, WAVE shows the original web page with embedded icons and indicators that reveal the accessibility of that page.

### Enter a web site address

Enter the URL of the web site you want to evaluate:

WAVE this page!

### Upload a file

If you have files that are not publicly available on the internet, you can upload the files for WAVE evaluation. Simply browse to the file using the form below.

Choose File No file chosen

WAVE this file!

### Check HTML code

Paste HTML code into the text area below.

### WAVE Blog

[WAVE5 Beta Release](#)  
October 3, 2012

[WAVE Toolbar Firefox 4 Beta Update](#)  
December 30, 2010

[WAVE Downtime](#)  
April 29, 2010

[WAVE Updates](#)  
April 5, 2010

[WAVE Dreamweaver Extension](#)  
January 30, 2010

[Read more of the blog...](#)  
[Read about cognitive accessibility evaluation and WAVE](#)

# Strategies for Compliance

**Discuss Strategies for Compliance**

**Universal Design for Learning (UDL)**

**a. Principle 1: Multiple Means of Representation**

[www.cast.org](http://www.cast.org)



www.cast.org  
CDS MEDIA CENTER



[skip navigation](#) -- [site map](#)

- [Home](#)
- [About CAST](#)
- [About UDL](#)
- [Research & Development](#)
- [Learning Tools](#)
- [Professional Development](#)
- [Library](#)

[DONATE](#)

# Transforming Education through Universal Design for Learning

**« 1 2 3 4 »**

**New! UDL Curriculum Toolkit**  
 CAST releases the [UDL Curriculum Toolkit](#), a free web-based tool to help curriculum developers and researchers author and publish educational materials that are flexible and responsive to the needs of all learners. [Read the press release](#)

- Highlights**
- [CAST's 2013 Spring UDL Institute is March 21-22, 2013!](#)
  - [An Open Letter Concerning Participation of Students with Disabilities in Online Learning](#)
  - [New Book! A Research Reader In UDL](#)
  - [Job Opportunity: Senior Development Officer](#)

## Who we are [About CAST](#)

CAST is an educational research & development organization that works to expand learning opportunities for all individuals through Universal Design for Learning.

## What we do [Research and Development](#)

CAST works to apply Universal Design for Learning (UDL) to education's greatest challenges. [Read about our projects](#)

## What we offer [Learning Tools](#)

Thanks to the generosity of our funders, CAST offers free multimedia learning tools. [View all tools](#)

Connect with CAST on:



- Tim Berners-Lee Photo.jpg
- CDScreenshotAccess.tiff

[Show All](#)



CDS www.media.cds.hawaii.edu  
MEDIA CENTER

# Webinar Series: Accessibility & the Web

## Next Accessibility Webinar

CDS Media Center Webinar Series

[http://www.media.cds.hawaii.edu/?page\\_id=61](http://www.media.cds.hawaii.edu/?page_id=61)



UNIVERSITY OF HAWAII AT MĀNOA

College of Education



UNIVERSITY of HAWAII®  
MĀNOA



CDS www.media.cds.hawaii.edu  
MEDIA CENTER

# Webinar Series: Accessibility & the Web

## Questions?

CDS Media Center Webinar Series

<http://www.media.cds.hawaii.edu/>



UNIVERSITY OF HAWAII AT MĀNOA

College of Education



UNIVERSITY of HAWAII®  
MĀNOA