Improving web accessibility through improving interactive practices.

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Context for this presentation

- Policy for assessment in procurement?
  - Already exists *("develop, procure, maintain)*
- *Voluntary Product Accessibility Template (VPAT) process does not always lead to good outcomes*
- *The best procurements won't solve all our issues*

Complexity has changed

- Early on: “Accessibility is not hard”
- Then became; “It’s not easy, but it’s not rocket surgery”
- Now, in some instances it really is

Context for this presentation

- *What is needed to "develop, procure, & maintain" accessible goods and services?*
  - *Evaluation that can help*
  - *Individuals who have knowledge & skills*
  - *System that supports the work*

Today . . .

- Technical evaluations of web content and applications
- Our human capital
  - Accessibility knowledge & skills
    - Of developers (in-house; vendors)
    - Of procurement specialists
- System evaluation of the enterprise

TECHNICAL EVALUATIONS

TOOLS TO HELP

New directions

Sept 2012 508 Report

- Nearly 58% of agency components perform routine testing on web pages, forms, and applications
  - 28% use automated & manual
  - 24% use only manual
  - 6% use only automated

Report recommendation

. . . use both automated and manual testing. Manual testing should be based on a consistent test process and should rely primarily on code inspection

Report recommendation

. . . agencies can improve accessibility and usabilty of a web page by including people with disabilities in the testing process using screen readers and other assistive technologies

Evaluation Tools

- Current tools differ across:
  - How they present the information
  - Types of things they check
  - Spidering capabilities

Evaluation Tools

- Most items are programmatically determinable now using the code analysis techniques in use across tools
- Detecting more may not make it more useful
- The final analysis remains a human judgment

WAVE.WebAIM.org

- Free web accessibility evaluation tool
- Evaluates the page after CSS and scripting have been applied, providing a truer representation of the end user experience

WAVE can easily collect

- **Document structure**- headings, ARIA landmarks
- **Element computed styles** - color, font, size, contrast, visibility
- **Element markup** – attributes, ARIA, HTML5, class names

WAVE can easily collect

- **Relationships** – form labels, table headers, aria-labelledby, does the target for skip link exist
- **Media usage** – Flash, PDF, JavaScript, AJAX
- **Server and page data** – Server used, technology used (i.e., PHP, ASP), file size, HTML version, language, code validity

New Directions (WAVE)

- Difficult but possible
  - Keyboard interactions
  - Focus indicators
  - Scripted/dynamic interfaces (e.g., web apps)
  - Non-html content

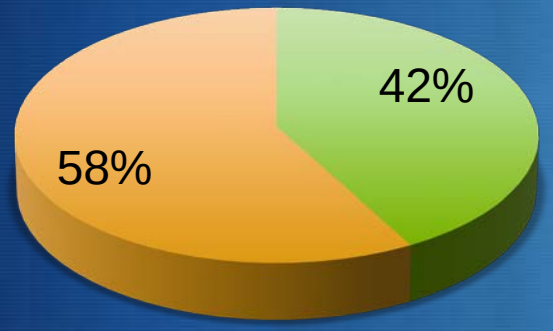
New Directions

- Analyzing a rendered page as a whole (not just markup). Analysis could help with issues of cognitive load
  - Consistency between pages
  - White space
  - Distracting content

New Directions

- Automating path analyses
- Readability evaluations (if data to support heuristics)

What about the other 42%



Lack knowledge or skill?

Lack administrative leadership or support?

Lack of planning to evaluate?

Other reason?

Just for fun

New Line of Research

- WAVE-the-Web
  - Big Data
    - Google Web Authoring Stats 2005
    - Opera MAMA 2008
  - Accessibility focus

Some sample questions

- How compliant is the web? Really?
- What types of mistakes are made most often?
- How does my site compare to the average web page?
- Which government pages have the fewest compliance issues?

Some sample questions 

- What technologies are being used (Flash, JavaScript, HTML5, ARIA)?
- What technologies best support (or least support) web accessibility?
- What percentage of “skip links” are broken?
- How prevalent are “click here” links?

Internationalization of web accessibility tools

Segue:

Can there be an end to discretionary grantees creating inaccessible products?

Personnel Knowledge and Skills

New directions

What Personnel?
Develop, Procure, Maintain

- Who are our web creators?
  - Developers (in house, vendors)
  - Office Staff
- Who works on accessible procurements?
  - Purchasing Specialists
- What do they know?

Procurement:

Must be a person with knowledge & skills

How many in procurement understand the appropriate implementation of accessible JavaScript or ARIA landmarks to support scripted and dynamic content?

Content creation:

Must be a person with knowledge & skills

How many office staff create Word or PDF docs that end up online?

Do they know what is their responsibility?

Procurement:

Must be a person with knowledge & skills

How do you know that the contractor will produce accessibly?

What needs to happen?
New directions

- Recognition that this is a widespread need requiring widespread training and TA
- Systems for preservice and inservice training
  - Chicken-egg dilemma in higher ed
  - Imperative to move away from “spray and pray” approaches
- Systems for certifying applied skills

Expanding our Knowledge?

- For development staff
  - Surveys inform the field of current issues
  - Screen readers
  - Low vision
  - Motor disability soon

WebAIM
web accessibility in mind

Expanding our Knowledge?

- Jan 2009 – 1121 responses
- Oct 2009 – 665 responses
- Dec 2010 – 1245 responses
- May 2012 – 1782 responses

WebAIM
web accessibility in mind

Screen Reader Surveys

- There is no typical screen reader user
- NVDA and VoiceOver usage is increasing
- JavaScript was enabled for 99% of the respondents
- Most respondents (61%) use headings first to navigate a complex page

Screen Reader Surveys

- Mobile screen reader usage increased 600% in under 3 years
- 72% report using a screen reader on a mobile device
- Only 35% think web content has become more accessible

New Direction?

- More systematic research on user experience with an eye to influencing practice.

WebAIM
web accessibility in mind

New Knowledge

- Those with cognitive and learning disabilities represent the largest number of individuals with disabilities
- Cognitive issues
  - Still too much unknown
  - Approach can not be the same as those with sensory and motor disabilities

Improved Supports

- Technology support for technical personnel
  - ARIA is not yet a final specification, but is moving to ARIA 2
  - Web apps – what library am I going to use and how is that supported/not supported by the AT?

Improved Supports

- TA on the AT – What is / is not resolved?
  - We still don’t have support for HTML 2 across AT (e.g., Strong tag)
  - Some AT vendors work to resolve consumer complaints, not conformance to standards or interoperability issues

System Assessment

New directions?

System Level Evaluations

- Accessibility does not occur in a vacuum
- Taking a snapshot of the environment helps target improvements
- Data-driven reform and cycles of continuous improvement

Postsecondary example

- Gaining Online Accessibility through Self-Study (GOALS). *See:* NCDAE.org
  - Information to help with administrative commitments

Postsecondary example

- System level Benchmarking and Planning tool
- Resources and strategies to impact the enterprise
- Funded by U.S. Department of Education (OPE –FIPSE)

GOALS

Postsecondary example

- **Indicators of institutional accessibility**
  - Leadership commitment and support
  - Policy and implementation planning
  - Resources and supports
  - Assessment

GOALS

Gaining Online Accessible Learning through Self-study

Institutional Indicators at a Glance

1. Institutional Vision and Leadership Commitment

- Administrative Commitment and Leadership
- Relevant Stakeholder Participation

2. Planning and Implementation

- Inclusion of Key Personnel
- Comprehensive Written Accessibility Plan
- Comprehensive Accessibility Policy
- Implementation of Written Plan

3. Resources and Support

- Budget Sufficient to Meet Stated Plan
- Sufficient Time and Effort Allocated to Personnel
- Procurement, Development, and Use of Technologies that will Result in Accessible Web Content
- Training and Technical Support
- Focus on Personnel

4. Assessment

- Evaluation of Progress of Process
- Evaluation of Web Accessibility Outcomes
- Assessment Results Are Used To Improve Institutional Accessibility

This at-a-glance document shows the Project GOALS framework for measuring institutional accessibility, which is determined by four key indicators, and expressed through a series of benchmarks for each indicator. The complete document that follows further develops each benchmark by looking at the strength of institutional evidence.

ncdae.org/goals

GOALS WEB ACCESSIBILITY Benchmarking & Planning Tool

You are not signed in.

Request an Account | Sign In

Help your institution quickly and efficiently become web accessible.

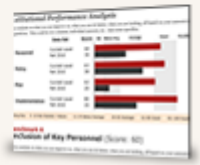
Request an Account | Watch the Video

Already have an account? Sign in now »

Where You Are

The first section of this tool guides you through a series of questions to compare your institution against proven indicators of web accessibility.

Where You Need to Be



You are then provided detailed charts and analysis comparing your current web accessibility standing to recommended practices.

How to Get There

Finally, specific tools and resources are provided as you are guided through making a detailed plan of action to improve your web accessibility standing.

Work With Your Team

The GOALS Tool lets you create a team to work with so you can get valuable feedback and assistance along the way.

Administration Ready Reports

Save the hassle of getting a detailed report ready. The report function plugs your data right in a report ready for you to edit and hand to any leader.

Track Your Progress

Your data is saved so when you use the tool again, you can track your progress and improvement in making web accessibility changes.

We Help You Get Started

GOALS staff will evaluate the accessibility of 6 key pages on your website to assist you in identifying areas for improvement.

Free to First 50 Institutions

As a grant funded project, we're allowing free access to the tool for the first 50 that sign up. Read more details about these free accounts »

Sign In

Email

Password

Sign In

Forgot Password?

Request an Account

Contact us with a request to become a participating institution.
Note: If you have already received an invitation email please log in above.

First Name

Last Name

Email

Phone

Institution You Represent

Request Account

Indicator 1: Commit
Benchmark A: Leadership

Return to Dashboard

Administrative leadership begins with a **VISION** and commitment toward change. Typically this vision, and its leadership support, stems from efforts made at top administrative levels within an institution. For some systems this would also include the institutions board of governors or trustees. Over time the leadership commitment results in the development and enforcement of an accessibility **POLICY** and **PLAN**, along with the necessary resources to implement them.

1) Is web access included in your administrative vision or commitment statement?

- (●) No, we don't have any statements that commit our institution to web accessibility.
-  ( ) We have statements on related issues (e.g., best practices in Information Technology [IT] or support for diversity) but none that specifically mention web accessibility.
-  ( ) Yes, we have vision or commitment statements that specifically include web accessibility.
- ( ) Don't Know/No Response

Rationale (optional)

view other reviewers' rationale

2) Has your central administration created and sustained a web accessibility task force or institution-wide accessibility group?
Clarifying "Accessibility task force"

-  ( ) No, we don't have a task force or accessibility group.
- ( ) We have unit- or department-specific task forces or accessibility groups that have been sustained, but they aren't institution-wide.
- ( ) We have just formed an institution-wide task force or accessibility group, but it is too early to tell if it will be a sustained effort.
-  ( ) We created an institution-wide task force or accessibility group, but it is or was not sustainable (e.g., it was time-limited, central administration didn't implement its recommendations, and/or insufficient personnel or authority limited its effectiveness).
- ( ) Yes, we have an ongoing institution-wide task force or accessibility group, and its work is sustained (i.e., it has necessary personnel and authority to promote successful institution-wide web accessibility).

GOALS WEB ACCESSIBILITY Benchmarking & Planning Tool

Implement

Your Institution: Northern Utah University

Institutional Performance Analysis

Return to Dashboard

Compare Past Performance:

☑ May 2011 ☐ February 2010

Benchmark	Score	Below Avg 11-25% / Average 26-60% / Good 61-80% / Excellent 81-100%
A) Personnel: Inclusion of Key Personnel May 2011	55	
A) Personnel: Inclusion of Key Personnel	78	
B) Policy: Comprehensive Accessibility POLICY May 2011	36	
B) Policy: Comprehensive Accessibility POLICY	52	
C) Plan: Comprehensive Written Accessibility PLAN May 2011	24	
C) Plan: Comprehensive Written Accessibility PLAN	48	
D) Implementation: Implementation of the Written PLAN May 2011	16	
D) Implementation: Implementation of the Written PLAN	27	

Create Your Action Plan - Benchmark A

Inclusion of Key Personnel *(Score: 95)*

☑ This is something I would like to work on.

Helpful Resources

- GOALS template: Identifying personnel for the web accessibility committee
- Examples of Task Force/Accessibility Committee Development
  - How to organize a Web Accessibility Committee from WebAIM
  - HTML Accessibility Task Force Work Statement from the W3C
  - Accessibility TF Manifesto from the Web Standards Project
  - W3C's Implementation Plan for Web Accessibility - Establish Responsibilities

Goal or Outcome Statement
What do you want your institution to accomplish?

We will broaden the web accessibility task force to include 7 additional individuals so we may broaden institutional perspective. We will seek representation from the Procurement Office, Human Resources, the Library, and from the Faculty Senate.

Staff Involved
Whose help is required in order to reach this goal?

- ☑ Amy Wilson
- ☑ John Williams
- ☑ Richard Lee
- ☑ Craig Smith
- ☑ Janet Long

Areas of Focus
Areas with the lowest scores are shown first.

- ☑ Involvement of key accessibility personnel and those they represent in policy development
- ☑ Involvement of key accessibility personnel and stakeholder groups in the development of an institution-wide web accessibility plan
- ☐ Involvement of key accessibility personnel and stakeholders in the implementation of institution-wide web accessibility

Other

Notes
These will be included in your report.

Let's see if we can get this addressed at an Executive Council meeting and then have invitations to participate come directly from the Provost.

Target Date (mm/dd/yyyy) 9/1/12

(All data is saved automatically)

GOALS WEB ACCESSIBILITY Benchmarking & Planning Tool

Report

Your Institution: Northern Utah University

Reports

Benchmark Report

The Benchmark Report includes all questions, possible questions, optional rationale, and final answers for your completed indicators.

Create Report

Action Plan

The Action Plan is a compilation of your action plan data, including related questions, for your completed indicators.

Create Plan

Administrative Report

The Administrative Report is created from the Benchmark Report, Action Plan, and other resources to create a formal, comprehensive report.

Create Final Report

New Directions?

- This model assumes each component has equal value. What are the relationships between success and failure of each component for the enterprise?
  - *E.g., Thompson, Comden, Ferguson, Burgstahler, and Moore (2013) could only account for 3% of variance in their model blending policies, "conversations", and institutional type, with accessibility outcomes*

New Directions?

- Validated in postsecondary contexts, does it hold true in other environments (i.e., government, industry)?
- Are there other environmental predictors of success?
  - Age old “Can do vs. Do do” problems

Summary of next steps

To improve our ability to develop, procure, and maintain accessible web

Summary

- **Evaluation metrics**
  - Analysis of a rendered page
  - Path analyses
  - WAVE-the-Web
  - Internationalization

Summary

- **Personnel knowledge and skills**
  - How best to educate and support the wide array of personnel needs in accessibility?
    - Preservice
    - Inservice

Summary

- **Personnel knowledge and skills** (cont.)
  - More science on the user experience to inform industry and accessibility personnel
  - Time to push a research agenda on cognitive accessibility

Summary

- **System evaluations**
  - What are indicators of accessibility success across sectors?
  - Are there predictors for good accessibility outcomes?
  - Is benchmarking and planning effective in non-education environments?

Discussions