Technology should be usable to everyone regardless of their individual characteristics.
Supporting Culture Change

Universal Design is working to blend accessibility standards and usability principles together in order to create technology that is usable for everyone. Creating pathways for individuals to learn, communicate, and share via information technology, regardless of their individual learning and processing styles, or physical characteristics.

- Design in accessibility – don’t let it be an after thought
- Integrate accessibility knowledge into the expected skill set of staff
- Accessibility is a shared campus responsibility
Benefits to All of Universally Designed Technology

• With proper structure of a web page the user can change the presentation of the page to meet their needs.

• Proper structure and coding allows users to choose how they navigate a web page.

• Technology should require the least amount of effort for the users. Don’t assume they will all engage the technology in the same way.

• Proper use of structure allows authors/readers to edit and navigate large documents.
UDC Services:

• Consultation/Training of Instructional Materials compliance and usability
• Web application developers training to design-in web compliance and usability evaluation
• Consultation regarding accessibility and usability policy
• Compliance and usability testing for purchased, promoted, or supported (PPS) campus software. (based on campus impact)
• Maintaining a vetted, centralized repository of training material
• Creation of training materials
• Research, identify or create compliance standard application coding techniques.
• Compliance testing of websites, software and electronic devices.
Tools and Plug-ins

- Fire Bug
  https://getfirebug.com/

- Wave
  http://wave.webaim.org/toolbar/

- Colour Contrast Analyser
  http://www.paciellogroup.com/resources/contrastAnalyser
Tools and Plug-ins

- Juicy Studio
  http://juicystudio.com/index.php

- Grayscale
  https://chrome.google.com/webstore/detail/grayscale-tool/odolflphhameojgliipcnahnipmogigo
  http://www.visionaustralia.org/digital-access-wat

- Web Developer Extension

- Compliance Sheriff

- Accessibility Evaluation Toolbar
<table>
<thead>
<tr>
<th><strong>Level I</strong></th>
<th><strong>Level II</strong></th>
<th><strong>Level III</strong></th>
</tr>
</thead>
</table>
| • Review VPAT information for confusing or unclear remarks and explanation resulting in significant barriers.  
• Consider Campus or System Wide Impact of the product.  
• If egregious issues found, conduct manual testing to validate claims or lack of accuracy based on Impact considerations.  
• Share VPAT back to the vendor with additional UDC comments. | • Limited criteria validation based on application type  
• **Examples:**  
  • **Web form** applications (form fields labels, input mask, error handling)  
  • **Basic web page** (link & semantic requirements, tab order and images)  
  • Concurrently: Run Compliance Sheriff (C.S.) level IV scan based on appropriate check points. Use as a guide for manual checking.  
  • Recommendations and resources provided. | • Criteria validation based on CSU ATI Requirements and full UDC Testing Guide implementation.  
• Comprehensive testing (all previously listed criteria plus usability testing)  
• Applications have coding that requires additional research and reiterative testing of coding solutions validation.  
• Detailed recommendations and resources provided.  
• Concurrently: Run C.S. level IV scan with manual testing.  
• As needed provide actual coding or work around for end user. |
High Impact Errors

- Web Forms (legends and fieldset, ARIA techniques)
- Drop Down Navigation
- User interface, flow of navigation and error messaging handling
- Misaligned Tab Order based on page function
- Table for layout that do not linearize
- Lack of proper Data Tables mark up
- Lack of alternative description of meaningful images
Solutions

• Research, customize and produce alternative coding methodologies
  – Cross browser/AT Compatibility for vague link text e.g. Read More, More, More info etc.
  • “title” + “aria-label”
Drop down menu

Challenges

• Unable to implement accessible drop down into Drupal environment
  o Inaccurate keyboard focus
  o Unable to navigate with A.T., especially JAWS and NVDA
Drop down menu

Coding Methodologies:

- Aria techniques:
  - Application role
  - MenuItem role
  - aria-expanded attribute
  - aria-haspopup attribute
  - aria-hidden along with CSS display: none; and JQuery .hide(); function

- Title attribute
Accordion

Challenges:
• No navigational instruction is provided
• A.T. users are not aware of the region

Coding Methodologies:
• **ARIA Methods**: to help user navigation and interaction
• **jQuery Scripting**: to control user interaction
Solutions

Providing proper workarounds where possible

– Sliding Banner

– Web Forms (legends and Fieldset)
Common User Interface Error

- No indication that form field is required but an error message unexpectedly appears

![Example of inconsistent error handling system](image)

- Inconsistent error handling system
Common User Interface Error

• Error Message is too generic

• Error Messages unrelated to issues that occur
Executive Level Support

Executive Level Sponsors

- Vice Presidents
  - Associate VPs
- CIOs
  - ADA Officer
  - 508 Officer
- Deans
- Directors
Campus Accessibility Web Audits

1) Web Environment: URL Identification
2) Technical Support Role Clarification
3) Division/Dept Content Creators Reporting Needs
4) Paraprofessional Student Support Liaisons
5) Paraprofessional Web Developer
6) Accessibility UD Web Dev/System Administrator
7) Coding Solutions Provided
Compliance Sheriff Planning and Training

1. Compliance Sheriff campus management and distribution
2. Campus periodic scans and reports (campus Audit and quarterly scans)
3. Campus Training procedure (beginner, intermediate, advanced) overview
4. Campus Web Accessibility Training procedure overview
5. Compliance Deputy overview and announcement
6. Departmental designees who directly work with the tools and manually test their own web environment
Compliance Deputy overview and announcement

- Add-on module to HiSoftware Compliance Sheriff
- A browser based application to scan the current webpage against certain checkpoints
- To scan and correct pages under development, before publishing

WCAG 2.0 - Compliance Level A scan for http://www.hisoftware.com/

<table>
<thead>
<tr>
<th>Result</th>
<th>Checkpoint</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>✗</td>
<td>Failure of Success Criterion 1.1.1 and 1.2.1 due to using text alternatives that are not alternatives.</td>
<td>Image with non-descriptive alt text found.</td>
</tr>
<tr>
<td>✗</td>
<td>Use h1-h6 to identify headings</td>
<td>Page does not use headers according to specification.</td>
</tr>
<tr>
<td></td>
<td>Making the DOM order match the visual order</td>
<td>Elements displayed with absolute positioning may be out of logical DOM order</td>
</tr>
<tr>
<td>✗</td>
<td>Failure of Success Criterion 2.1.2 and Conformance Requirement 5 due to combining multiple content formats in a way that traps users inside one format type</td>
<td>Verify that focus is not trapped when using keyboard to navigate application</td>
</tr>
</tbody>
</table>

Image with non-descriptive alt text found.
Campus Periodic scans and reports
campus Audit and quarterly scans

❖ Monthly Scans - Selective Checkpoints
  • Separate Scan Group for every College/Department
  • e.g. Broken Links, Alternative Text, Tables
  • Scan: College of Education – Selective Checkpoints

❖ Quarterly Scans – CSU ATI Accessibility Requirements
  • Separate Scan Group for every College/Department
  • On Specific Dates
  • Scan Naming Conventions: College of Education – ATI Requirements
  • CSV files achieved

❖ Campus Audit – CSU ATI Accessibility Requirements
  • One big scan
  • On specific dates
  • Scan Naming Conventions: Camus Audit – ATI Requirements
  • CSV files achieved
Campus Training procedure overview
beginner, intermediate, advanced

❖ Beginner Training
  • What the tool can do
  • Checkpoint overview (Sections and Groups)
  • Basic Scan Configuration
  • Basic View Setting

❖ Intermediate Training
  • Scan Groups, Properties and Scheduling
  • Transaction Script Recorder
  • View Properties and Comparison
  • Revise Results Wizard

❖ Advanced Training
  • Efficient scheduling tips
  • Export Results
  • View and Scan Management tips
  • Notification, Report and Setting
Web accessibility training

• Compliance criteria
  – Section 508, WCAG 2.0
  – Success Criteria

• CSU ATI Accessibility Requirements
  – Customized Accessibility Evaluation Checkpoints

• Best Practices
  – Sharing lessons learned

• Universal Design Principles
  – Accessibility and Usability for all
Designing In
Accessibility – Usability – Business Processes
Designing In
Accessibility ➔ Usability ➔ Business Processes

- Scalable Methods for testing and training
- Compliance Criteria for evaluation standards
- Incorporating accessible coding methodologies into development cycle