

# **Practical Accessibility: A Web Accessibility Primer**

## **Part 3: Future Research Directions and Conclusions**

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**Dr. Simon Harper and Dr. Yeliz Yesilada**

Human Centred Web Lab (HCW)

Information Management Group

University of Manchester, UK

The University of Manchester

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## Guidelines v2.0

- Web Content Accessibility Guidelines (WCAG) v2.0
  - Already Out
  - Perceivable, Operable, Understandable, Robust.
- Authoring Tool Accessibility Guidelines (ATAG) v2.0
  - Draft 21 May 2009
  - Similar Principles - 2 Parts - CMS / BLOG / etc
- User Agent Accessibility Guidelines (UAAG) v2.0
  - Draft 11 March 2009
  - Similar Principles

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<http://www.w3.org/WAI/groups.html>

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## ISO & PAS 78

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- International Standards Organisation
  - Harmonization (2-3 years out)
  - Lots of work to be done here
- PAS 78
  - Commissioner Focused
  - Useful to Justify Accessibility to a Client
  - Useful for the Client

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ISO 9241-171:2008 provides ergonomics guidance and specifications for the design of accessible software for use at work, in the home, in education and in public places. It covers issues associated with designing accessible software for people with the widest range of physical, sensory and cognitive abilities, including those who are temporarily disabled, and the elderly. It addresses software considerations for accessibility that complement general design for usability as addressed by ISO 9241-110, ISO 9241-11 to ISO 9241-17, ISO 14915 and ISO 13407. ISO 9241-171:2008 is applicable to the accessibility of interactive systems. It addresses a wide range of software (e.g. office, Web, learning support and library systems). It promotes the increased usability of systems for a wider range of users. While it does not cover the behaviour of, or requirements for, assistive technologies (including assistive software), it does address the use of assistive technologies as an integrated component of interactive systems. It is intended for use by those responsible for the specification, design, development, evaluation and procurement of software platforms and software applications.

[http://www.iso.org/iso/catalogue\\_detail.htm?csnumber=39080](http://www.iso.org/iso/catalogue_detail.htm?csnumber=39080)

Publicly Available Specification (PAS) 78 has been developed by the Disability Rights Commission (DRC) in collaboration with BSI. This PAS outlines good practice in commissioning websites that are accessible to and usable by disabled people. **Scope and contents** PAS 78 covers areas such as:
 

- how disabled people use websites
- defining the accessibility policy for the website
- web technologies
- accessibility testing and maintenance
- contracting web design and accessibility auditing services.

 It gives recommendations for:
 

- the management of the process of, and guidance on, upholding existing W3C guidelines and specifications
- involving disabled people in the development process and using the current software-based compliance testing tools that can assist with this.

 PAS 78 is applicable to all public and private organizations that wish to observe good practice under the existing voluntary guidelines and the relevant legislation on this subject. It is intended for use by those responsible for commissioning public-facing websites and web-based services. PAS 78 is also available to purchase from here and BSI Customer Services in the following formats: large print, easy read, audio, Braille, DAISY and Welsh.

<http://www.bsigroup.com/Shop/Publication-Detail/?pid=00000000030129227>

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## AJAX, ARIA, and AxsJAX

- AJAX - JS can be problematic
  - Updates the DOM on the client (Mutation Event)
  - AT does not 'see' the update
- ARIA - Accessible Rich Internet Applications
  - Tries to make updates Visible in live regions
  - Suggest how updates are handled
- AxsJAX - Google Lead
  - Binds AJAX and Accessibility together

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**WAI-ARIA, the Accessible Rich Internet Applications Suite, defines a way to make Web content and Web applications more accessible to people with disabilities. It especially helps with dynamic content and advanced user interface controls developed with Ajax, HTML, JavaScript, and related technologies.** Currently certain functionality used in Web sites is not available to some users with disabilities, especially people who rely on screen readers and people who cannot use a mouse. WAI-ARIA addresses these accessibility challenges, for example, by defining new ways for functionality to be provided to assistive technology. With WAI-ARIA, developers can make advanced Web applications accessible and usable to people with disabilities.

<http://www.w3.org/WAI/intro/aria.php>

AxsJAX injects accessibility enhancements as defined by W3C ARIA. The prerequisites for experiencing its benefits include: 1. A modern Web browser like Firefox 2.0 or later that supports W3C ARIA. 2. Adaptive technologies that respond correctly to the accessibility enhancements introduced by W3C ARIA. 3. In particular, many of the enhancements injected by AxsJAX depend on support for live regions a feature that enables adaptive technologies like screen readers and self-voicing browsers deal correctly with asynchronous updates to portions of a Web page. The AxsJAX framework can inject accessibility enhancements into existing Web 2.0 applications using any of several standard Web techniques:

- As a [bookmarklet](#) --- small snippets of JavaScript that are used to create smart bookmarks.
- Using [Greasemonkey](#) --- a powerful browser extension that allows end-users to customize the look and feel of Web sites via custom scripts
- Using [Fire Vox](#) --- Fire Vox, an open source talking browser extension for Firefox, automatically injects the AxsJAX scripts if the "Use site specific enhancements" option is turned on.

<http://code.google.com/p/google-axsjax/>

## HTML5 & XHTML 2.0

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- HTML5 - Very Very Interactive
  - Allows Bad Code (Encourages bad practice)
  - Roles 'Feature'
  - UA Manufacturer Lead (Apple, Mozilla, Opera)
    - Splinter group WHATWG
  - Possible ARIA Adoption
  - Hints a move to a declarative application platform
- XHTML 2.0
  - Standards Based
  - Encourages Good Practice

<http://www.whatwg.org>

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## WAI CG Consensus Resolutions on Text alternatives in HTML 5

- Alt Text Debate
  - aria-labelledby
- Longdesc Debacle
  - aria-labelledby / aria-describedby
- Table Summary
- IMG
  - Role / Alt=""

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<http://www.w3.org/2009/06/Text-Alternatives-in-HTML5>

1. `<img>` is only valid when at least one of the following is true:

- `@alt` is present (empty or non-empty) **OR**
- `@aria-labelledby` is present (non-empty only) **OR**
- the `<img>` is located within a `<figure>` that has a non-empty `<legend>` **OR**
- `@role="presentation"`

**2.NOTE:** The intent here is twofold. 1.to allow different methods to be used for providing short text alternatives (e.g. ALT or LABELLEDBY or LEGEND) 2.to note that short text alternatives are not needed for content that is "presentational" as defined by ARIA3. That

- the proper use of `@role="presentation"` be taken from ARIA 1.0
- and that an `<img>` without a `@role` attribute is assumed to be the equivalent of `<IMG @role="img">` (and would follow the rules in #1 above)

**4.NOTE:** 'Presentation' should not be defined to be broader than what is defined by ARIA5. For cases in which it is appropriate for user agents to ignore the presence of an image (e.g. when the image is used for decoration, for formatting, or when the image is invisible), one or both of the following may be used:

- `@role="presentation"`
- `@alt=""` (also see (4))

**6.INTENT:** That it is VALID to use either ROLE and/or ALT="" to mark "presentational" content.

7. `alt=""` WITHOUT an accompanying `role="presentation"` triggers a non-critical validator warning recommending use of `role="presentation"` (but `@alt=""` remains technically valid)

**8.INTENT:** To encourage the use of `role=presentation` - by encouraging (but not requiring) its use even when `alt=""` is used.

9. We suggest new mechanisms for short text alternatives (e.g. `aria-labelledby`, `<legend>`) should be capable of handling structured content. Our primary concern is that short text alternatives be able to support inline text structure, such as abbreviations, language changes, emphasis, etc.

**10.RATIONALE:** It would be helpful for the short alternative text mechanism to support structured text.

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## UGL & EARL

- Universal Guideline Language (UGL)
  - Proposed at this years Web4All conference
  - Enables Guidelines and Sets of Guidelines to be created
- Evaluation and Report Language (EARL)
  - Produces and Embeds Reports
  - Details can be Understood by Multiple Tools

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<http://www.w3.org/WAI/groups.html>

## Inclusion & Developing Regions

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- Inclusion - Developing Regions @ Home
  - Older Users
  - Socially Disempowered
  - Financially Disadvantaged
- Developing Regions
  - What can we both learn?
  - Why does it matter?

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## Accessibility Tools Framework (ACTF)

- Eclipse IDE
  - IBM Lead
- SDKs
  - Validation SDK, Visualization SDK, and Alternative Interface SDK
- Tools
  - Accessibility Probe (AccProbe), aDesigner, and Accessibility Internet Browser for Multimedia (aiBrowser)

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The Accessibility Tools Framework (ACTF) is an incubation phase project that is a subproject of the Eclipse Technology Project. ACTF is a framework that serves as an extensible infrastructure upon which developers can build a variety of utilities that help to evaluate and enhance the accessibility of applications and content for people with disabilities. A collection of example utilities will also be provided which were created on top of the framework such as compliance validation tools, assistive technology simulation applications, usability visualization tools, unit-testing utilities, and alternative accessible interfaces for applications. The ACTF componentry and the utilities will be integrated into a single tooling environment on top of the Eclipse framework. The framework components will function cooperatively with each other and with other Eclipse projects to provide a comprehensive development environment for creating accessible applications and content.

<http://www.eclipse.org/actf/>

## Take Homes

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1. Why?
  - Social, Financial, and Technical Benefits
2. Think Accessible!
  - Content, Context, and Cost
  - No Cookbook!
    - Combine approaches
    - Ensure code quality.
    - Use your engineering skills.

## Final Questions?

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**Thank-You!**

**The Human Centred Web Lab**  
**hcw@cs.manchester.ac.uk**  
**http://hcw.cs.manchester.ac.uk**

