Website Accessibility Evaluation Techniques

Introducing a Development Perspective of Evaluation

Steve Potts, Dec 2005
1. Introduction
2. Set a Context
3. Criteria for Success
4. Evaluation Process
5. Sample Evaluation
6. Conclusions
1. Introduction

What is Accessibility?

– Overcoming personal limitations
– Overcoming technical limitations
1. Introduction

Instruments for Accessibility Criteria (UK)

– W3C WAI WCAG1.0
– DRC Investigation - The Web - Access and Inclusion for Disabled People 2004
2. Set a Context

- What?
  - Website
- When?
  - Web Application
- Where?
  - Web-Based Data Entry
- Who?
  - Handheld Device Website
- Why?
2. Set a Context

- What?
- When?
- Where?
- Who?
- Why?

- During Development
- Ongoing Monitoring
- Post Deployment
- Evaluating a Legacy Site
2. Set a Context

- What?
- When?
- **Where?**
  - Development Environment
  - Offsite Remote Access
  - Usability Laboratory
- Who?
- Why?
2. Set a Context

- What?
- When?
- Where?
- Who?
- Why?

- Development Team
- Dedicated Accessibility Team
- Disability Group Users
2. Set a Context

- What?
- When?
- Where?
- Who?
- Why?

- Best Practices
- Threat of Litigation
## 3. Criteria for Success

### Idealistic
- Continuous & Iterative
- Cross-Disability Group User Testing
- Prescriptive Guidelines
- Expert Review
- Full-Scale Scope
- Unlimited Budget

### Realistic
- Performed Once at End
- Single User Testing (Often the Developer)
- Vague Understanding
- Peer Review
- Limited Scope
- Low to Zero Budget
3. Criteria for Success

Compromise

- Inherent Developer Working Practices
- Team Testing Approach (Learn and Apply)
- Peer Reviews Early and Often
- Full System Scope
- Accessibility Evaluation Factored Into Budget
4. Evaluation Process

• Full Conformance Review
  1. Determine the Scope of the Evaluation
  2. Use Web Accessibility Evaluation Tools
  3. Examine Pages Using Graphical Browsers
  4. Examine Pages Using Specialised Browsers
  5. Use Automated Accessibility Evaluation Tools
  6. Read and Evaluate Page Content
  7. Summarise Obtained Results
4. Evaluation Process

• Preliminary Review
  1. Select a Representative Page Sample
  2. *(No Web Validation)*
  3. Examine Pages Using Graphical Browsers
  4. Examine Pages Using Specialised Browsers
  5. Use Automated Accessibility Evaluation Tools
  6. *(Content Not Evaluated)*
  7. Summarise Obtained Results
4. Evaluation Process

- **Graphical Browsers**
  1. Disable Images for Alternative Text
  2. Disable Audio for Equivalent Content
  3. Vary Font Sizes to Ensure Readability
  4. Apply Different Screen Resolutions
  5. Reduce Colour Saturation
  6. Navigate Using Keyboard Only
4. Evaluation Process

- **Graphical Browsers**
  - DOM Inspector for Internet Explorer, Firefox
  - WAVE Toolbar for Internet Explorer, Firefox
  - AIS Toolbar for Internet Explorer
  - Firefox Web Developer Toolbar
  - TAW3 Toolbar for Firefox
  - Safari
  - Opera
4. Evaluation Process

• Specialised Browsers
  1. Equivalent Content to Graphical Browser
  2. Content Presented in Meaningful Order
4. Evaluation Process

• Specialised Browsers
  – Text Browsers: Lynx, Links, Opera
  – Voice Browsers: IBM Home Page Reader
4. Evaluation Process

• **Automated Evaluation Tools**
  1. Validate Mark-up and Style Sheets
  2. Perform Automated Evaluation
4. Evaluation Process

- **Automated Evaluation Tools**
  - W3C HTML Tidy, HTML/CSS Validators
  - HiSoftware AccVerify
  - SSB Technologies InFocus
  - Watchfire Bobby
4. Evaluation Process

W3C WAI WCAG1.0 Guidelines

- 14 Guidelines Totalling 65 Checkpoints:
  - 16 Priority 1 Checkpoints “Must” Conform
  - 30 Priority 2 Checkpoints “Should” Conform
  - 19 Priority 3 Guidelines “May” Conform
4. Evaluation Process

W3C WAI WCAG1.0 Guidelines

– 14 Guidelines Totalling 65 Checkpoints:
  • Level “A” Conformance
  • Level “AA” Conformance
  • Level “AAA” Conformance
4. Evaluation Process

Reporting

– Summarise Problems
– Identify Best Practices
– Recommend Follow-up Steps:
  • Repair Identified Accessibility Barriers
  • Expanding Positive Aspects of Site
  • Ongoing Maintenance and Monitoring
5. Sample Evaluation

1. Determine the Scope of the Evaluation
   Define Scope as Amazon.co.uk Home Page

2. Use Web Accessibility Evaluation Tools
   Introduce HTMLTidy, HTML/CSS Validators

3. Examine Pages Using Graphical Browsers
   Internet Explorer & Firefox Toolbars, Opera

4. Examine Pages Using Specialised Browsers
   Single Image(!) Demo with IBM HPR, Lynx

5. Use Automated Accessibility Evaluation Tools
   Results from HiSoftware AccVerify, Watchfire Bobby

6. Summarise Obtained Results
   State the Need to Write Results and Recommendations
5. Sample Evaluation

Specific Example of Manual Evaluation

Press the “stop” button to halt deletion.
Specific Example of Manual Evaluation

Press the “stop” button to halt deletion.

1. Removal of Colour
Specific Example of Manual Evaluation

Presione el botón de la “parada”.

2. Non-primary Natural Language
5. Sample Evaluation

Specific Example of Manual Evaluation

3. Images Disabled, No ALT Attribute

Presione el botón de la “parada”.
5. Sample Evaluation

Specific Example of Manual Evaluation

Presione el botón de la “parada”.

4. Images Disabled, No SUBMIT Value
6. Conclusions

- Guidelines Exist
- Automatic Evaluation Insufficient Alone
- Pragmatism in Manual Evaluation
- Extend and Embrace
http://www.w3.org/WAI/eval/


http://www.drc-gb.org/library/webaccessibility.asp

http://www.drc-gb.org/publicationsandreports/publicationdetails.asp
Resources

Starting Points to Sow the Seeds…

- http://www.w3.org/WAI/
- http://www.accessify.com/
- http://www.disability.gov.uk/
- http://www.joeclark.org/access/
- http://www.jimthatcher.com/
Usability Professionals Association North North

• UK Chapter of the UPA
  Usability Professionals’ Association

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• w:: groups.yahoo.com/group/northern_usability/