

Ajax and Accessibility

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Ajax and Accessibility Agenda

- Ajax and Web 2.0
- Accessibility issues with Ajax
- Case study of retrofitting a web page using Ajax
- Recommended solutions for implementing Ajax to maximise accessibility
- Testing Ajax with a screen reader

Ajax and Web 2.0

- What is Web 2.0?
- Web 1.0 + something else

What is Web 1.0?

- Publishers producing websites
- Visitors read websites
- Clearly enforced divide
- Minimal participation/feedback
- Largely static content

Characteristics of Web 2.0

- Breaking the Publisher/Reader model
- User contributes/generates content
- Social media / shared experiences
- Web as a Platform

Examples of Web 2.0

- Users sharing content
 - Flickr
 - Yahoo! Answers
 - YouTube
 - Del.icio.us
 - Wikipedia

Examples of Web 2.0

- Users becoming publishers
- Blogging
 - Users becoming publishers
- Subscribing (RSS)
 - Users subscribing to new content

Examples of Web 2.0

- Social networking / communities
 - Facebook / Linked in
 - MySpace
 - Ning

Examples of Web 2.0

- Interactive applications
- Google Maps

Examples of Web 2.0

- Web is a platform
 - Email
 - Google Gmail, Yahoo! Mail
 - Calendar / Project Management
 - Basecamp
 - Personalised Homepages
 - My World, Netvibes, Pageflakes, Google Personalised Homepage

Building blocks of Web 2.0

- HTML
- CSS
- JavaScript and Ajax

What is Ajax?

- Connecting to the server using JavaScript
- Avoids refreshing page
- Dynamic updates to content
- Dynamically processing user-generated content

Accessibility issues with Ajax - Summary

- General issues
- Screen reader issues
- Screen magnifier issues
- Keyboard issues
- Movement and colour issues

Ajax Accessibility issues - General

- Lack of page refresh – breaks model of web
- User independent updates
- Visual dependencies
- JavaScript barriers

Ajax Accessibility issues – Screen readers

- Updating the virtual buffer
- Two issues:
 - Is the content available to the user?
 - Is the user aware that the content is updated?
- Hidden content
 - Drop-down menus

Ajax Accessibility issues – Screen readers

- User initiated updates
- User independent updates
- Delayed updates (Ajax)
 - Virtual buffer sometimes not updated
 - Hidden input field hack
 - Manual updates
- Usability issues

Ajax Accessibility issues – Screen magnifiers

- Distance between action and result
- Changing the content they are reading

Ajax Accessibility issues – keyboard users

- Offscreen content
- Removing focused content

Case study of retrofitting a web page using Ajax

- Pre-requisites:
 - Structured and semantic HTML
 - Text alternative to visual cues
- Case studies
 - Yahoo! TV Search
 - Fix My Street

Case study: Yahoo! TV Search

- Common Interface: Tabbed Search



Case study: Yahoo! TV Search

- It's just a form!

Search

- The web
- For pictures
- For video
- For audio

Case study: Yahoo! TV Search

- Plus: Adding the visual cue with CSS
- Plus: JavaScript to enhance the user experience
- Audio cues (Extra text)
- Keyboard access for free (labels)

Case study: Fix My Street

- <http://www.fixmystreet.com/>
- Report problems to your local council
- Accessible Ajax Map
- Progressive Enhancement

Case study: Fix My Street



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Case study: Fix My Street

- Simple text forms
- Plus: Simple link and clickable map
- Plus: Ajax draggable map to enhance user experience

Recommended solutions for accessible Ajax

- Development
- Testing

Recommended solutions – Development

- Progressive enhancement
 - Semantic and structured HTML
 - Core functionality in HTML only
 - Use CSS to add visual cues
 - Use JavaScript to:
 - add dynamic updates
 - user-enhancements

Recommended solutions – Testing

- Disable JavaScript and CSS:
 - core functionality must work
- Enable CSS and JavaScript:
 - Identify visual cues, ensure text-only alternatives are available
 - Visual cues: colour, positioning, arrows, GUI metaphors
- Test it without a mouse
- Test it on a slow connection

Testing with a screen reader

- Don't use a screen reader
- Get a screen reader user instead
- Screen reader power user – good for first pass testing
- Normal screen reader user – better for real user testing

References

- Standards:
 - PAS 78 – British Standards Institution & Disability Rights Commission
 - www.drc-gb.org/pas
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Thank you

- Questions & Answers