

Coding Languages

Compatibility and Accessibility

Refresh

- HTML - Hyper Text Markup Language
- CSS - Cascading Style Sheets
 - How HTML elements are to be displayed
- JavaScript makes HTML pages more dynamic and interactive
 - HTML defines the content of web pages
 - CSS specifies the layout of web pages
 - JavaScript programs the behaviour of web pages

History

- 1991 – WWW released to public
- It is the Browser that renders the HTML
 - Vendor specific
 - Inconsistency in how web pages are displayed.
- Browser Wars in mid 1990's
- 1998 Two browsers emerge as dominant leaders
 - Internet Explorer 4
 - Netscape Navigator 4
 - Both rendered HTML differently!
- https://www.youtube.com/watch?v=Zc9Oy_zdEwc

W3C

- World Wide Web Consortium
 - Founded in 1994
 - Attempt to bring standards to web
 - Big step forward in 2000 in Standards
 - <https://www.w3.org>

Compatibility: Cross Browser Issues

- Different behaviour across different browsers
- Browsers have bugs, or implement features differently.
- IE4 v Netscape 4
 - both companies deliberately implemented things differently to gain competitive advantage
 - Web developers caught between the two.
- Browsers better at following standards these days
- Different browsers have different levels of support for new technology features than others.
- Some devices can have constraints that cause a web site to run slowly, or display badly.
 - E.g. if a site has been designed to look nice on a desktop PC, it will probably look tiny and be hard to read on a mobile device.
 - A site with many big animations will be ok on a high spec tablet, but will be sluggish on a low end device.

Compatibility: Cross Browser Issues

- Older browsers lack support for modern features
- Older browsers also have layout issues
- Mainly old IE issues
 - Can detect the browser type and select correct CSS file
- Layout Issues
 - Lack of (or differences in) support for modern layout features.
 - Layouts not looking good in mobile browsers (i.e. responsive design problems)

Responsive Design Issues

- Responsive design
 - Creating web layouts that change to suit different device form factors
 - Different screen widths
 - orientations (portrait or landscape)
 - resolutions
 - Desktop layouts can look terrible when viewed on a mobile device
- Resolution is a big issue
 - mobile devices do not need big heavy images compared to desktop computers
 - mobile devices can have slower internet connections and data is expensive
 - Different devices have a range of different resolutions

W3C

- Markup Validation
 - <https://validator.w3.org>
- CSS Validator
 - <http://jigsaw.w3.org/css-validator/>
- HTML5 Browser Compatibility
 - <https://html5test.com>

Assistive Technologies

- Not OK for a site to work fine for sighted users, but be completely inaccessible for visually impaired users
- <https://youtu.be/20SHvU2PKsM>
- Some disabled use the Web with the aid of assistive technologies
 - Screen readers
 - Only use the keyboard and not a mouse

Assistive Technologies

- Visit <https://www.w3.org/WAI/>
 - Navigate to:
Accessibility Fundamentals -> How People with Disabilities Use the Web - Stories of Web Users
- <https://www.w3.org/WAI/demos/bad/Overview.html>

Accessibility

- Accessibility is not just about disabilities.
- Accessibility is to make your websites usable by as many people in as many contexts as possible, not just those users using high-powered desktop computers.
- Examples include:
 - Users on mobile devices.
 - Users on alternative browsing devices such as TVs, watches, etc.
 - Users of older devices that might not have the latest browsers.
 - Users of lower spec devices that might have slow processors.
- Accessibility also improves SEO

Accessibility Useful Tools

- Auditing Tools

- <http://wave.webaim.org>
- <https://khan.github.io/tota11y/>

- Screen Readers

- <http://www.chromevox.com>
- <https://www.nvaccess.org>
- <https://play.google.com/store/apps/details?id=com.google.android.marvin.talkback>
- <https://www.apple.com/accessibility/mac/vision/>

Cross Browser Testing

- Make sure you test the web sites on all browsers
- Test Assistive tools
- Tablets (Expensive and Cheap)
- Smartphones
- Smart TVs
- Older Browsers in use with limited capabilities
- You are not your users — just because your site works on your Macbook Pro, doesn't mean it will work for all your users

Cross Browser Testing

- Some practical ideas:
- Test web sites in a couple of popular browsers, e.g. Firefox, Safari, Chrome, and IE/Edge.
- Do lo-fi accessibility testing. E.g. try to use your site with only the keyboard, or using your site via a screen reader to see if it is navigable.
- Test website on the mobile platforms Android and iOS.

Cross Browser Testing

- Use Google Analytics to see what browsers people are using to access your website
- Ask some willing users to test on various devices for you