Browser Development Tools

by

Rusty Keele
Who This Presentation Is For

• Anyone who wants to learn about browser developer tools
  • Basic knowledge of HTML, CSS and JavaScript is helpful

• Anyone interested in web programming

• People who are comfortable in their seats and don't want to leave
What We’ll Cover In This Presentation

• An overview of browser development tools
• Common and unique features
• Where to learn more
• “Celebrating Geek Culture” with photos of vintage micro-computers!

Kaypro 1 (1986) with WordStar Template
https://www.flickr.com/photos/andyi/5032041439/
About Me

• Started programming BASIC on a Commodore 64 in 1982!
• B.A. in Computer Science from Weber State University
• Full time web programmer for UEN – mostly PHP

Commodore 64 (1982)
https://www.flickr.com/photos/shaniber/3027057973
An Introduction To The Tools
What Are Browser Development Tools?

• A suite of tools for web programmers
• Display in a browser window
• Built in to most modern web browsers
  • We’ll discuss Firefox, Chrome, Internet Explorer and Safari
  • We’ll talk about desktop browsers only – mobile browser tools are different
• Can also be browser plug-ins
What Do They Look Like?

Firefox

Chrome
Who Are They For?

- Web developers and programmers

- But some tools are helpful for non-programmers:
  - *Network*: see how long it takes items to load
  - *Console*: see error messages
  - *Responsive design mode*: see how your site looks on different devices
  - If you want to see what a specific site is doing!
# How To Open The Tools

<table>
<thead>
<tr>
<th></th>
<th><strong>Keyboard Shortcut</strong></th>
<th><strong>Menu Bar</strong></th>
<th><strong>Context Menu</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Firefox</td>
<td>Ctrl + Shift + i</td>
<td>F10 &gt; Tools &gt; Web Developer &gt; Toggle tools</td>
<td>Right-click &gt; Inspect element</td>
</tr>
<tr>
<td>Chrome</td>
<td>Ctrl + Shift + i</td>
<td>Customize icon &gt; More tools &gt; Developer tools</td>
<td>Right-click &gt; Inspect element</td>
</tr>
<tr>
<td>Internet Explorer</td>
<td>F12</td>
<td>Tools &gt; F12 Developer tools</td>
<td>Right-click &gt; Inspect element</td>
</tr>
<tr>
<td>* Safari</td>
<td>Command-Option-I</td>
<td>Develop menu</td>
<td>Control-click &gt; Inspect Element</td>
</tr>
</tbody>
</table>

* Safari tools must be enabled first: click "Show Develop menu in menu bar" setting in Safari's preferences under the Advanced pane.
Try It Yourself!

- Open one of these browsers on your computer
- Mozilla’s test page: http://go.uen.org/3Ss
- Open the developer tools and follow along!
Common Utilities
In All Browsers

Compaq Portable (1982)
https://www.flickr.com/photos/michaelrogers/3960975908/
The Explorer / Inspector

- View HTML
- Inspect the Document Object Model (DOM)
- See Cascading Style Sheets (CSS)
- Edit CSS in real-time
The Console

- View JavaScript
- See errors, warnings and messages
- Edit JavaScript in real-time
The Network Monitor

• See all the network requests your browser is making
  • Images
  • Scripts
  • Styles
  • Ads

• View details for:
  • Raw headers and responses
  • Cookies
  • Load times
  • Security
The Debugger

- Allows you to debug JavaScript code
- You can step through the code to examine or modify it
- Set breakpoints
- See variable values
The Profiler / Performance Tool

- View your site’s responsiveness
- Create profiles
  - A record of what the site is doing
- Save and export profiles
Unique Features For Specific Browsers

Radio Shack TRS-80 (1977)
https://www.flickr.com/photos/eevblog/14577631278/
Internet Explorer 11

- Emulation tab
  - Mode: can emulate IE 5, 7, 8, 9, 10 and Edge (11)
  - Display: landscape and portrait views for different screen sizes / devices
  - Geolocation
- Profile memory usage and UI responsiveness
- The Help icon (?) or F1
Firefox 38

- Responsive Design Mode: test different screen sizes
- Dock options: where to show your browser tools
- Toolbox Options: change the appearance of your browser tools
- Style Editor tab: edit and save external CSS files
Google Chrome 43

- Audits: suggestions to improve your code
- Device mode:
  - show screen sizes for specific devices
  - throttle network speeds
- Resources: view fonts, images and storage
- https://developer.chrome.com/devtools
Safari 8

- Activity View Bar: See at-a-glance summary of key information
- Layers, Styles, Nodes: See detailed information about each element
Wrapping Up

Atari 800 (1979)
https://www.flickr.com/photos/mratzloff/9171555638/
Where To Learn More

• Browser specific documentation (see previous links)
• A good web site: http://devtoolsecrets.com/
  • Info about several topics - and many have videos!
• Some books on Amazon.com - mostly browser specific
The End

• You can get these slides at http://c64sets.com/slides/
• rkeele@uen.org
• Rate this talk (thumbs up or thumbs down on the Tech Summit schedule page)
• Images from Flickr.com (all have creative commons license)
• Vintage computer info from http://oldcomputers.net/

IBM PC (1981)
https://www.flickr.com/photos/76200039@N02/12840558153/