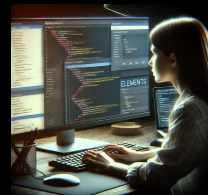
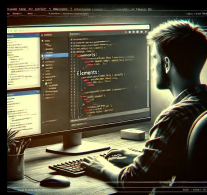
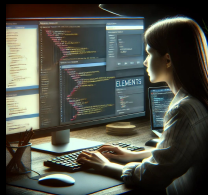


Unlock the Power of the Dev Tools in Your Browser



About your speaker

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20+ years in software

B.S. Computer Science @ Thomas Jefferson University

M.E. Software Engineering @ Penn State

Director of Software Development at Altera

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Desktop Browsers

Blink



Maintained by Google

Chrome, Chromium, Edge, Brave, Vivaldi, Opera

Gecko



Maintained by Mozilla

FireFox, WaterFox, Tor

WebKit



Maintained by Apple

Safari

Desktop
Market
Share

Chrome 64.55%
Edge 13.8%
Safari 9.38%
Firefox 6.66%
Opera 2.41%
Other Browsers 3.2%

Mobile Browsers

Mobile
Browser
Marketshare

Chrome 66.17%
Safari 23.28%
Samsung Internet 4.13%
Opera 2.04%
UC 1.77%
Firefox .58%
Other 2.03%

	Android	iOS
Chrome	Blink	WebKit
Safari	WebKit	WebKit
Samsung Internet	Blink	WebKit
Opera	Blink	WebKit
UC	Blink	WebKit
Firefox	Gecko	WebKit
DuckDuckGo	Blink	WebKit

Web Stack-Specific Considerations

WASM

C/C++

Map a workspace to a source control folder.

There's a DWARF extension for Chrome-based browsers

See Google's instructions:

<https://developer.chrome.com/blog/wasm-debugging-2020>

Client-side Blazor

Microsoft recommends a remote debugging approach. Link to the instructions below.

<https://learn.microsoft.com/en-us/aspnet/core/blazor/debug?view=aspnetcore-8.0&tabs=visual-studio#debug-blazor-webassembly-with-google-chrome-or-microsoft-edge>

```
local.get $var1
i32.load
local.tee $var4
i32.eqz
if
    i32.const 6
    return
end
local.get $var1
local.get $var1
i32.load
i32.const 16
i32.add
i32.store offset=32
local.get $var1
i32.load offset=32
local.tee $var4
i32.eqz
if
    i32.const 14
    return
end
local.get $var1
local.get $var4
i32.load align=1
i32.store offset=32
```

Web Stack-Specific Considerations

React and Angular

Applications which use large client-side JavaScript frameworks can be difficult to debug. Parts of the framework show up in the memory profiler, call stack, source and events.

There are browser extensions which assist by representing components.



React Developer Tools



Angular state inspector

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CODE
MAGAZINE

Where to go

Source code for this demo:

<https://github.com/mikerapa/Browser-Tools>

