Shipping Web APIs to customers

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Step 1: Design & Implementation

Web APIs stick once shipped
forever

…so you need to get it right the first time!

Think about the API
Part of implementing is critiquing the spec

- Consider developer experience: If I'm a web developer:

  - Is it easy / intuitive to use?

  - Is it consistent with other APIs?

  - How does it interact with other APIs?

- Consider user experience: If I'm an end user, is there any unexpected behavior?

- Does the spec need clarification?

Did you answer yes to any of the previous questions?

Get involved in web standards :)

Build demos
Demos ≠ Testcases

- Show how developers will use the API (developer experience)

- Show what the end users will experience (user experience)

- How you would communicate the API in a blog / social media post

- Helps communicate the value of what you're building

Demos influence *every* step of the process
Things that you'll think about

- Is this the right API design?

- What's the best way to implement this?

- How does it interact with other features?

- What do I need to test?

- They help you find unexpected bugs!

Step 2: Test your implementation

Improve web platform tests
...and fix them if needed

- Do they match the spec in every detail?

- Are they exhaustive?

- Test behavior, not just syntax

- Test the functionality in your demo!

Add a feature flag
For pre-release testing

- See UnifiedWebPreferences.yaml

- We recently overhauled our feature flags system with 4 different types: stable, preview, testable, unstable

- https://developer.apple.com/documentation/safari-developer-tools/feature-flag-settings

- https://webkit.org/blog/14205/news-from-wwdc23-webkit-features-in-safari-17-beta/#web-developer-tools

Step 3: Shipping

Some measures of quality

- Web Platform Tests pass rates

- Interoperability

- Performance & Power
  - Through testcases / demos
  - Work with Apple if needed to run internal benchmarks
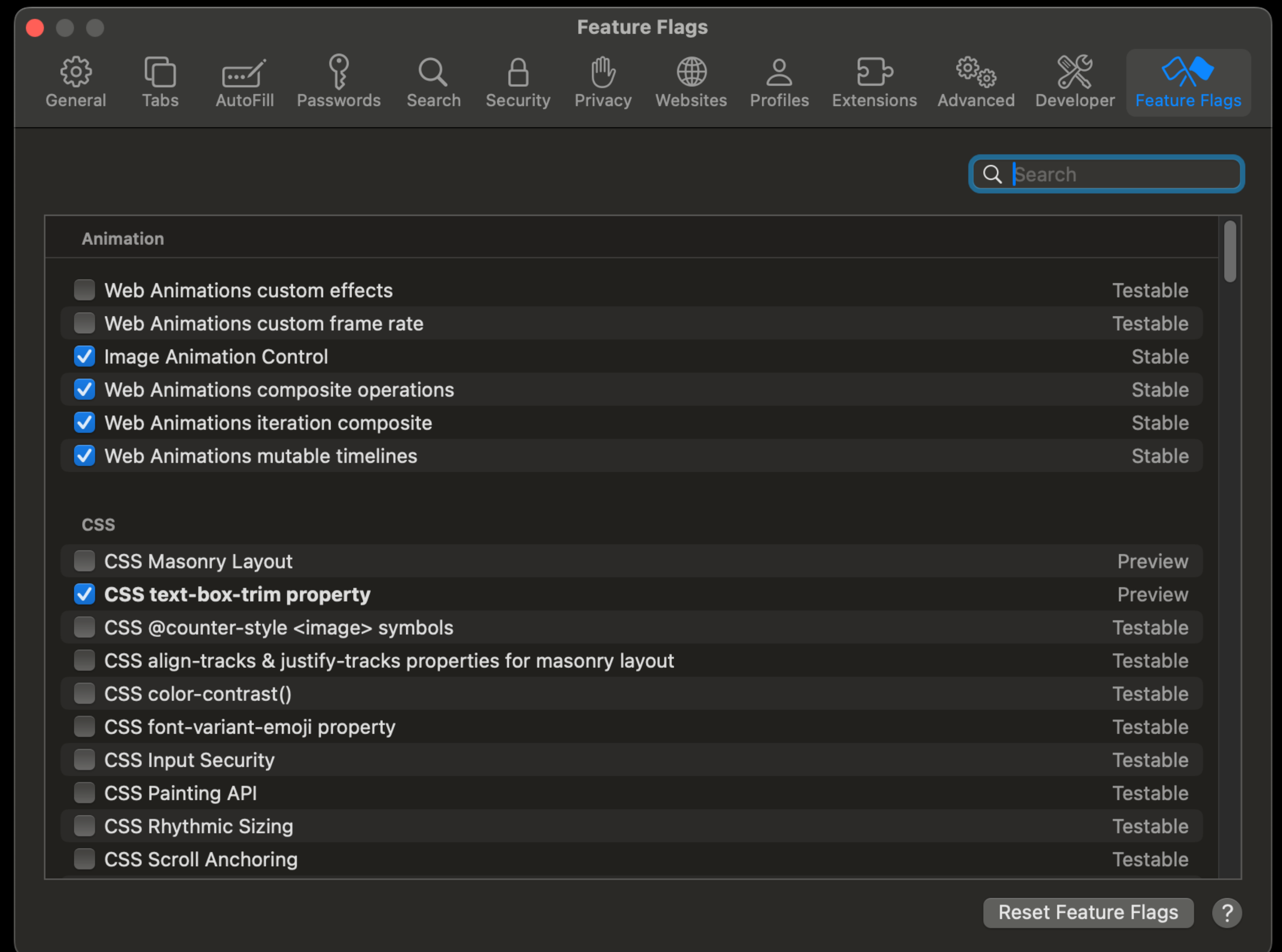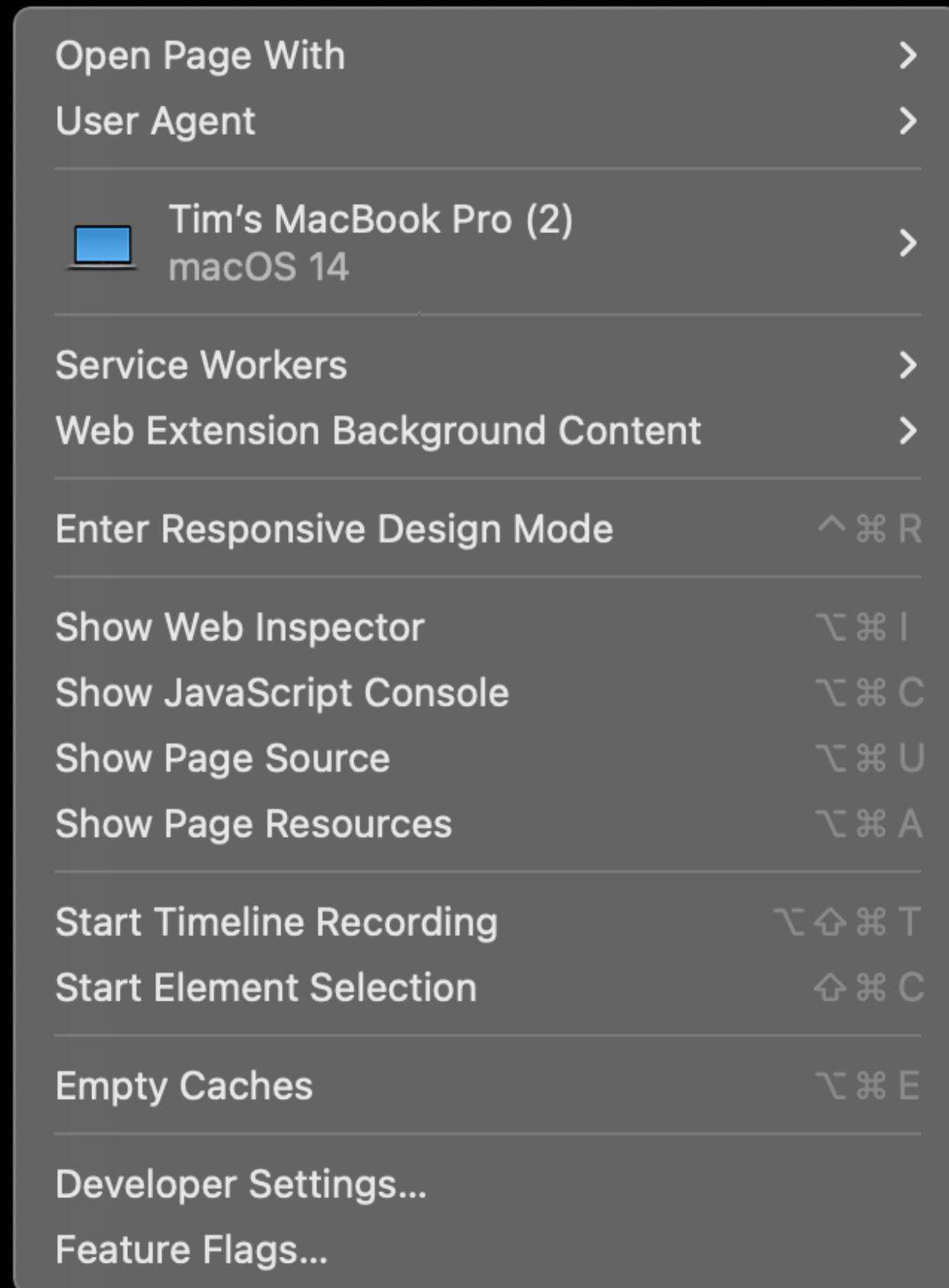
- How well do your demos work?

Check what customers see

- Test in Safari Technology Preview once available, not just MiniBrowser

  - Feature might interact with Safari features like autofill or reader mode

- Test on iOS (and work with Apple if needed)

- Test your demos :)

- Ensure spec / implementation / tests are all aligned!

How to toggle feature flags?
To test in Safari Technology Preview

- Enable the debug menu:

Ship 🚢

Celebrate! 🍰

…and fix regressions

but you can eat the cake first

Some possible followups

- Tools for web developers

- Tools for WebKit debugging

Q & A