

QUIRKS

kintsugi (金継ぎ) for the Web

Karl Dubost - WebKit Contributors Meeting - October 25, 2023



Website is broken. User Experience is bad!

- Website/JS library targeting a specific browser
- New feature breaking a site
- Removing an old feature
- Fixing a bug sites rely on
- (Tracking Prevention)

How to fix it?

- UA override
- C++ Quirks
- Hot fix websites

History:

Opera (Presto) BrowserJS

<https://github.com/srinivasarao549/browserjs/blob/master/desktop/browserjs-12.00.js>

Firefox Site Interventions

<https://github.com/mozilla-extensions/webcompat-addon>

Safari Quirks (let's talk about it)

Source/WebCore/page/Quirks.cpp

- Mostly true/false
- Based on domain name and simple heuristics
- Quirks logic is elsewhere in the C++ code base

Example: Quirks::shouldDisableLazyImageLoading()

Reported	Oct 27, 2022	Since when?
Diagnosis	Nov 7, 2022	
Outreach	Nov 8, 2022	https://github.com/webcompat/web-bugs/issues/113635
Quirk Added	Nov 18, 2022	<p>Brandon Stewart – https://github.com/WebKit/WebKit/pull/6595</p> <pre>if (RegistrableDomain(m_document->url()).string() != "ikea.com"_s) return false; auto* metaElement = m_document->getElementsByName("meta"_s)->namedItem("generator"_s); if (metaElement && metaElement->getAttribute("content"_s) == "Gatsby 4.24.1"_s) m_shouldDisableLazyImageLoadingQuirk = true;</pre>
Safari Release	Jan 24, 2023	
Fixed by Ikea	Apr 18, 2023	Robin Whittleton
Quirk Removed	May 18, 2023	https://github.com/WebKit/WebKit/pull/14058
Safari Release	TODAY!	Safari 17.1 (Oct 25, 2023)

UA overrides: HTTP User-Agent + navigator.userAgent

- GTK [Source/WebCore/platform/glib/UserAgentQuirks.cpp](#)
- Firefox iOS
 - <https://github.com/mozilla-mobile/firefox-ios/blob/main/Shared/UserAgent.swift>
- Safari has its mechanism (needs to be in WebKit)
 - WebKit User Agent Overrides API
 - See https://bugs.webkit.org/show_bug.cgi?id=263619

Issues!

- Quirks often requires modifying the C++ Code base
- All or nothing. Disable Site Specific Hacks.
- Coding Quirks vs Release time (**Users have a broken site in the meantime**)
- Outreach takes time
- Websites are being blocked by the Quirk when they want to change
- We do not always know the site has been fixed.
- Is the Quirk still needed?

Ideas to minimize users pain

- Simpler configuration (plist? JSON? Declarative?)
- Special power primitives for Webpages
- Dynamic Quirks and UA Overrides (deactivate atomically)
- Usable by others? WebKit GTK. Firefox iOS. etc.
- Not only domain names
- Out of releases update mechanism (Opera BrowserJS)
- Manual QA/Test suites for removing Quirks (Firefox/Opera ex)

Questions?

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