



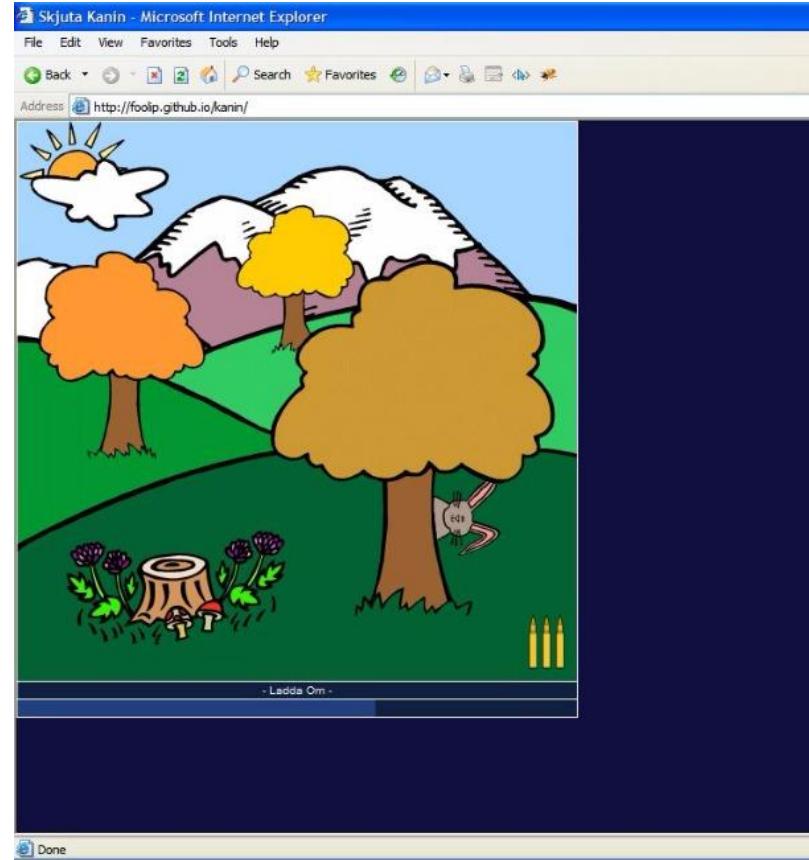
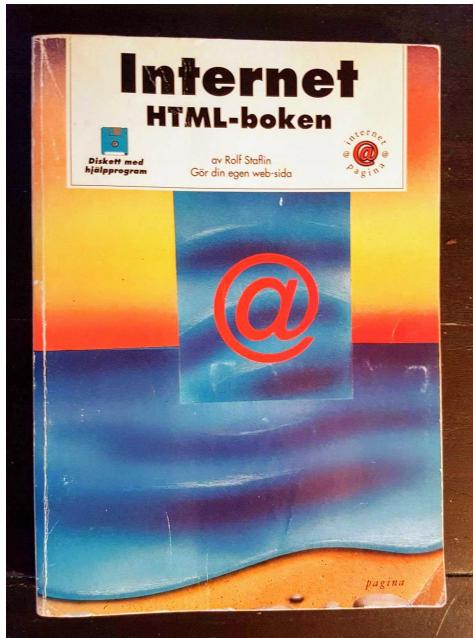
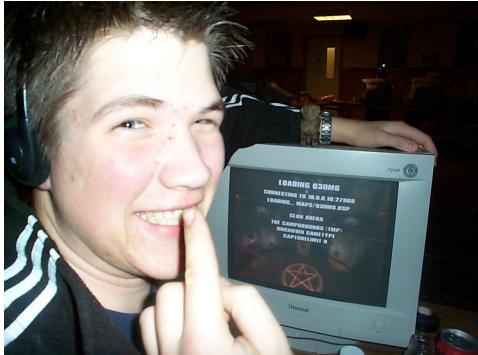
Improving interop with web-platform-tests

Philip Jägenstedt <foolip@chromium.org> at Web Engines Hackfest 2017

Slides: bit.ly/hackfest-wpt

Why care?

Joy



Mortality



Choice



Pain



Lars Berg

@laserberg

knobby rolls 🎧

[larsberg.net/sketches/2017/ ...](http://larsberg.net/sketches/2017/)

I made this in chrome & was bummed how different it sounds in FF & safari
#threejs #tonejs #cannonjs



Thom McGrath

@tekcor

Left: Chrome. Right: Safari. Two different tax calculations for the same address.

ORDER SUMMARY

| | |
|---------------|----------|
| SUBTOTAL | \$47.99 |
| TOTAL SAVINGS | -\$15.75 |
| SHIPPING | Free |
| TAX | \$2.05 |
| ORDER TOTAL | \$34.29 |

ORDER SUMMARY

| | |
|---------------|----------|
| SUBTOTAL | \$47.99 |
| TOTAL SAVINGS | -\$15.75 |
| SHIPPING | Free |
| TAX | \$2.22 |
| ORDER TOTAL | \$34.46 |



Lambtaco

@Lambtacotweets

Follow



I noticed that i Microsoft Edge. Seems to work fine in Chrome and Firefox. Try a different browser?

AlextheTroller @Alex_theTroller

@Lambtacotweets Yo Alex here, decided to give 2.0 a try and the controls are iffy, enable hold to dash and try to jump left while dashing.

6:51 PM - 20 Sep 2017

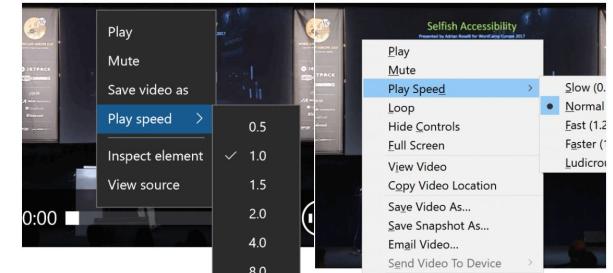


Adrian Roselli ⚡
@aardrian

Follow



Playback speed for <video> content works only in Windows, only in Firefox and Edge.
rosel.li/092217
Safari test by @scottohhara.



What is the problem?

Tragedy of the commons

- We usually think of our browser as the product
- Web developers want a cohesive platform
- Let's think of the platform as the product
- Neglected, so improving is easy
- Apply basic software engineering

WPT one year ago:

- No one's primary test suite
- Harder to use than non-shared tests
- No continuous integration
- No dashboard/waterfall
- Out of sync with specs

The screenshot shows the GitHub repository page for `w3c/web-platform-tests`. The repository has 11,482 commits, 59 branches, and 0 releases. The `Code` tab is selected. A list of recent commits is displayed, each with a author, commit message, and a link to the pull request. The commits are from various contributors like `youennf`, `2dcontext`, and `domenic`, and they involve adding tests for various Web Platform specifications.

| Commit | Description |
|---|---|
| <code>youennf committed with domenic</code> | Add fetch tests for URLSearchParams |
| <code>2dcontext</code> | Submit test_linedash from test_canvas.html to WPT; |
| <code>DOM-parsing/todo</code> | Add DOM parsing and serialization tests (#493) |
| <code>FileAPI</code> | Update FileAPI WPT idlharness |
| <code>IndexedDB</code> | Add new test to IndexedDB transaction abort tests. (# |
| <code>WebCryptoAPI</code> | Updated spec makes salt and info required. Tests upda |
| <code>WebIDL</code> | Test current Realm (still to be defined in more detail) |
| <code>XMLHttpRequest</code> | Do not fire one last progress event on XHR errors, to |
| <code>ambient-light</code> | AmbientLightSensor: add some basic functionality te |
| <code>annotation-model</code> | Now does not execute optional subtests that would fa |
| <code>annotation-protocol</code> | Implementation of annotation protocol server (#3634; |
| <code>app-uri</code> | Use correct paths to testharness.js and testharnessr |

Progress so far



2-way sync

WPT changes imported into Chromium within 12 hours

Chromium changes exported to WPT within 1 hour

Humans not in the loop, but on rotation if needed

2-way sync (export)

Chromium Gerrit Changes Your Documentation Browse

★ 683714 (Merged as b03a253): Worklet: Upstream http/tests/worklet to WPT

Updated Sep 28
Owner Hiroki Nakagawa
Uploader Commit Bot
Assignee Commit Bot
Reviewers Commit Bot, Ian Kilpatrick, Philip Jägenstedt, Add reviewer
CC Matt Falkenhagen, Thiago Farina, Robert Flack, Kinuko Yasuda, Eric Willigers, and 9 more, Add CC
Project chromium/src
Branch master
Topic No Topic
Hashtag
Code-Review +1 Philip Jägenstedt
Commit-Queue +2 Hiroki Nakagawa

Reply

Worklet: Upstream http/tests/worklet to WPT

This CL upstreams http/tests/worklet to external/wpt/worklets on the WPT repository.

Bug: [724907](#)
Change-Id: [I0928ea9bd7f615b84cf138a8682816c68a779ed5](#)
Reviewed-on: <https://chromium-review.googlesource.com/683714>
Reviewed-by: Philip Jägenstedt <foolip@chromium.org>
Commit-Queue: Hiroki Nakagawa <nhiroki@chromium.org>
Cr-Commit-Position: refs/heads/master@{#504833}



Worklet: Upstream http/tests/worklet to WPT #7482

Merged chromium-wpt-... merged 1 commit into master from chromium-export-cl-683714 3 days ago

Conversation 2 Commits 1 Files changed 9 +124 -0

chromium-wpt-export-bot commented 5 days ago • edited by wpt-pr-bot

This CL upstreams http/tests/worklet to external/wpt/worklets on the WPT repository.

Bug: 724907
Change-Id: I0928ea9bd7f615b84cf138a8682816c68a779ed5
Reviewed-on: <https://chromium-review.googlesource.com/683714>
Reviewed-by: Philip Jägenstedt foolip@chromium.org
Commit-Queue: Hiroki Nakagawa nhiroki@chromium.org
Cr-Commit-Position: refs/heads/master@{#504833}

chromium-wpt-export-bot added chromium-export do not merge yet labels 5 days ago

wpt-pr-bot approved these changes 5 days ago

View changes

Reviewers wpt-pr-bot

Assignees No one assigned

Labels chromium-export worklets

Projects None yet

Milestone No milestone

4 participants

Per-PR testing

Catches unstable tests

Does not require tests to pass

repository.

Bug: 724907
Change-Id: I0928ea9bd7f615b84cf138a8682816c68a779ed5
Reviewed-on: <https://chromium-review.googlesource.com/683714>
Reviewed-by: Philip Jägenstedt foolip@chromium.org
Commit-Queue: Hiroki Nakagawa nhiroki@chromium.org
Cr-Commit-Position: refs/heads/master@{#504833}

chromium-wpt-export-bot added **chromium-export** **do not merge yet** labels 5 days ago

wpt-pr-bot approved these changes 5 days ago [View changes](#)
Already reviewed downstream.

wpt-pr-bot added the **worklets** label 5 days ago

w3c-bots commented 5 days ago • edited
Build PASSED
Started: 2017-09-28 01:02:33
Finished: 2017-09-28 01:06:05
View more information about this build on:
[WPT PR Status](#)
[TravisCI](#)

Worklet: Upstream http/tests/worklet to WPT ae14908

chromium-wpt-export-bot removed the **do not merge yet** label 3 days ago

chromium-wpt-export-bot merged commit **92f545a** into **master** [View details](#) [Revert](#)
3 days ago
1 check passed

chromium-wpt-export-bot deleted the **chromium-export-cl-683714** branch [Restore branch](#)
3 days ago

Assignees
No one—assign yourself

Labels
chromium-export
worklets

Projects
None yet

Milestone
No milestone

Notifications
[Subscribe](#)
You're not receiving notifications from this thread.

4 participants


[Lock conversation](#)



web-platform-tests dashboard

Root About

Search test files, like cors/allow-headers.htm

WPT /

Data below are intended for web platform implementers and do not contain useful metrics for evaluation or comparison of web platform features. Also note that tested Edge and Safari are not pre-release versions ([#109](#), [#110](#)).

| Spec | chrome 62.0 linux 3.16 @de6ce4a47f Sep 30 2017 | edge 15 windows 10 @d4ccae09e1 Sep 29 2017 | firefox 57.0 linux 3.16 @de6ce4a47f Sep 30 2017 | safari 10 macos 10.12 @de6ce4a47f Sep 30 2017 |
|-----------------------------------|---|---|--|--|
| /2dcontext | 1818 / 1912 | 1469 / 1742 | 1843 / 1912 | 1760 / 1908 |
| /FileAPI | 491 / 499 | 374 / 493 | 494 / 499 | 445 / 497 |
| /IndexedDB | 1578 / 1579 | 763 / 1312 | 1530 / 1579 | 1270 / 1579 |
| /WebCryptoAPI | 22858 / 35622 | 959 / 16961 | 17305 / 37253 | 119 / 1250 |
| /WebIDL | 436 / 445 | 249 / 445 | 440 / 445 | 191 / 297 |
| /XMLHttpRequest | 1483 / 1563 | 734 / 1096 | 1518 / 1564 | 814 / 1373 |
| /accelerometer | 3 / 71 | 3 / 71 | 3 / 71 | 3 / 71 |
| /ambient-light | 3 / 33 | 3 / 33 | 3 / 33 | 3 / 33 |
| /apng | 0 / 1 | 0 / 1 | 1 / 1 | 1 / 1 |
| /assumptions | 12 / 17 | 15 / 17 | 16 / 17 | 14 / 17 |
| /audio-output | 12 / 13 | 3 / 14 | 2 / 13 | 2 / 13 |
| /background-fetch | 23 / 179 | 14 / 72 | 23 / 179 | 7 / 16 |
| /battery-status | 34 / 36 | 4 / 10 | 4 / 11 | 4 / 11 |
| /beacon | 51 / 101 | 55 / 67 | 95 / 101 | 21 / 100 |
| /bluetooth | 1 / 2 | 0 / 1 | 1 / 2 | 1 / 2 |
| /clear-site-data | 21 / 21 | 12 / 14 | 13 / 19 | 7 / 17 |
| /clipboard-apis | 12 / 31 | 3 / 31 | 3 / 31 | 2 / 12 |
| /compat | 5 / 19 | 16 / 19 | 19 / 19 | 15 / 19 |



WPT improvements in Chromium

dom/ 79% → 99%

editing/ 0% → 90%

html/ 74% → 93%

selection/ 16% → 99%

Standards

The WHATWG Blog ?

Please leave your sense of logic at the door, thanks!

Improving interoperability

January 30th, 2017 by [Philip Jägenstedt](#) in [WHATWG](#)

The goal of the WHATWG's Living Standards is to achieve interoperable implementations. With an ever-evolving web platform, we want changes to our standards to reach all implementations quickly and reliably, but from time to time there have been mishaps:

- Two table-related interfaces were ignored by implementers for a decade, but when finally [removed from the standard](#) it turned out that WebKit had just added them. Sorry!
- In 2007, the [serialization algorithm for <pre>](#) was [changed](#) to add an extra newline, so that it would roundtrip correctly. It was implemented in Presto (Opera) in 2012 (and the [standard was tweaked](#)), then implemented in Gecko in 2016, but they found it was [not web compatible](#), so it was [reverted](#). Oh well.
- We [changed how non-empty URL attributes are reflected](#) with support from two implementers, but nobody followed through with the change and it was later [reverted](#). Ahem.

Three months ago, we [changed the process](#) for the HTML Standard to encourage writing tests and filing browser bugs for normative changes. (Normative means that implementations are affected.) This was the first step on a path towards improving interoperability and shortening the feedback cycle, and it has thus far [exceeded our own expectations](#):

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[FAQ](#)

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[June 2017](#)

[April 2017](#)

[January 2017](#)

[November 2016](#)

[September 2016](#)

[August 2016](#)



Standards

80+ specs now have a policy to ask for tests with normative changes

WHATWG (16), Service Workers, Web Performance WG (12), IndexedDB, Pointer Lock, Payment Request, Web Animations, WebVTT, FX Task Force (6), CSS WG (34), SVG WG (8), Content Security Policy

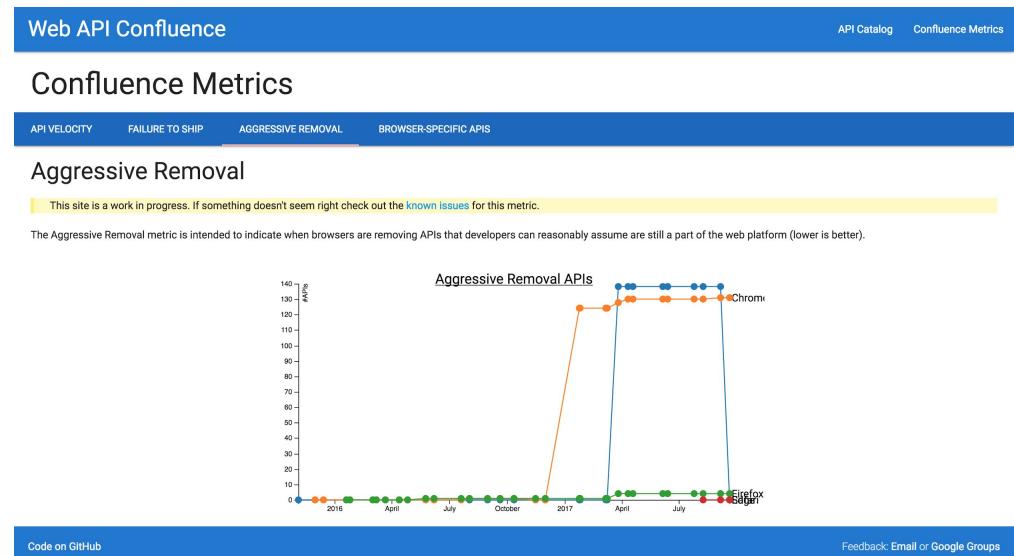
100+ remain

Non-WPT bonus

Visualizing API support as seen by traversing JS global object

Time-based metrics

web-confluence.appspot.com



What's next?

Automation

pointerevents/ has 71 manual tests

Automate input with WebDriver

Also: Permissions, WebRTC

web-platform-tests dashboard

[Root](#) [About](#)

Search test files, like cors/allow-headers.htm

[WPT / pointerevents](#)

Data below are intended for web platform implementers and do not contain useful metrics for evaluation or comparison of web platform features. Also note that tested Edge and Safari are not pre-release versions ([#109](#), [#110](#)).

| Spec | chrome 62.0 linux 3.16 @de6ce4a47f | edge 15 windows 10 @de6ce4a47f | firefox 57.0 linux 3.16 @de6ce4a47f | safari 10 macos 10.12 @de6ce4a47f |
|---|--|--------------------------------------|---|---|
| extension | 39 / 39 | 5 / 9 | 7 / 9 | 2 / 9 |
| idlharness.html | 61 / 61 | 22 / 61 | 61 / 61 | 1 / 61 |
| pointerevent_constructor.html | 27 / 27 | 21 / 27 | 27 / 27 | 1 / 2 |
| pointerevent_on_event_handlers.html | 31 / 31 | 29 / 31 | 31 / 31 | 0 / 31 |
| pointerevent_touch-action-illegal.html | 4 / 4 | 4 / 4 | 4 / 4 | 1 / 4 |
| pointerevent_touch-action-verification.html | 38 / 38 | 25 / 38 | 26 / 38 | 1 / 38 |

More per-PR testing

Test regressions should be intentional.

mockup →

The image shows a GitHub pull request and its corresponding Travis CI build history. The pull request by `lukebjerring` has one like and a comment about sRGBAs being precomputed for aesthetic reasons, with a link to the W3C specification. The PR was edited by `wpt-pr-bot`, who also added labels and requested review from several maintainers. The Travis CI build, run by `w3c-bots`, passed with FYI, starting at 2017-09-29 19:26:58 and finishing at 19:31:53. The build log notes a failure on Firefox without changes but a pass with them, asking to ensure this is intended. It also links to WPT PR Status and TravisCI. A final commit fix the unintended text difference in test ref is shown at the bottom.

lukebjerring commented 2 days ago • edited by wpt-pr-bot

Collaborator + 😊 🖍

sRGBA should be precomputed for aesthetic reasons.
See <https://www.w3.org/TR/css3-images/#color-stop-syntax> for explanation.

1

Add test for linear-gradient with transparent/rgba(0,0,0,0) ... ✓ 231add7

wpt-pr-bot added `css-images-3` `wg-css` labels 2 days ago

wpt-pr-bot requested review from `fantasai`, `gsnedders`, `plinss`, and `tabatkins` 2 days ago

w3c-bots commented 2 days ago • edited

Member + 😊 🖍 ✎

Build PASSED with FYI

Started: 2017-09-29 19:26:58
Finished: 2017-09-29 19:31:53

FYI: Test "foo bar" passed on Firefox without the changes but fails with them. Please make sure this is intended.

View more information about this build on:

- [WPT PR Status](#)
- [TravisCI](#)

Fix unintended text difference in test ref ✓ 70a2bf6

More wpt.fyi

An “interop health metric” where the incentives always point towards interop.

Per-browser reports without summary numbers, to be used for prioritization.

Also investigating time-based metrics.

mockup →

web-platform-tests dashboard

[Root](#) [About](#)

Search test files, like cors/allow-headers.htm

WPT /



| | 4/4 | 3/4 | 2/4 | 1/4 |
|--------------------------|---------------|---------------|---------------|---------------|
| /2dcontext | 1487 / 1912 | 1760 / 1912 | 1818 / 1912 | 1843 / 1912 |
| /FileAPI | 374 / 499 | 445 / 499 | 491 / 499 | 494 / 499 |
| /IndexedDB | 766 / 1579 | 1270 / 1579 | 1530 / 1579 | 1578 / 1579 |
| /WebCryptoAPI | 119 / 37253 | 959 / 37253 | 17305 / 37253 | 22858 / 37253 |
| /WebIDL | 191 / 445 | 249 / 445 | 436 / 445 | 440 / 445 |
| /XMLHttpRequest | 770 / 1564 | 814 / 1564 | 1483 / 1564 | 1518 / 1564 |
| /accelerometer | 3 / 71 | 3 / 71 | 3 / 71 | 3 / 71 |
| /ambient-light | 3 / 33 | 3 / 33 | 3 / 33 | 3 / 33 |
| /apng | 0 / 1 | 0 / 1 | 1 / 1 | 1 / 1 |
| /assumptions | 12 / 17 | 14 / 17 | 15 / 17 | 16 / 17 |
| /audio-output | 2 / 14 | 2 / 14 | 3 / 14 | 12 / 14 |
| /background-fetch | 7 / 179 | 14 / 179 | 23 / 179 | 23 / 179 |
| /battery-status | 4 / 36 | 4 / 36 | 4 / 36 | 34 / 36 |
| /beacon | 21 / 101 | 51 / 101 | 57 / 101 | 95 / 101 |
| /bluetooth | 1 / 2 | 1 / 2 | 1 / 2 | 1 / 2 |
| /clear-site-data | 7 / 21 | 12 / 21 | 13 / 21 | 21 / 21 |
| /clipboard-apis | 2 / 31 | 3 / 31 | 3 / 31 | 12 / 31 |
| /compat | 5 / 19 | 15 / 19 | 16 / 19 | 19 / 19 |
| /console | 13 / 32 | 16 / 32 | 29 / 32 | 32 / 32 |
| /content-security-policy | 388 / 1265 | 689 / 1265 | 855 / 1265 | 1218 / 1265 |
| /cookies | 8 / 27 | 12 / 27 | 20 / 27 | 20 / 27 |
| /cors | 186 / 379 | 193 / 379 | 366 / 379 | 372 / 379 |
| /credential-management | 2 / 55 | 2 / 55 | 2 / 55 | 53 / 55 |
| /css | 11650 / 29229 | 12550 / 29229 | 15190 / 29229 | 21342 / 29229 |
| /css-backgrounds | 0 / 2 | 2 / 2 | 2 / 2 | 2 / 2 |
| /css-cascade | 4 / 5 | 4 / 5 | 5 / 5 | 5 / 5 |
| /css-font-loading | 1 / 3 | 1 / 3 | 3 / 3 | 3 / 3 |
| /css-fonts | 19 / 89 | 46 / 89 | 60 / 89 | 82 / 89 |

More testing in standards

Visualizing the
day-to-day work
in specs and tests

foolip.github.io/day-to-day/

specs · tests · day-to-day

This collection of green boxes represents activity in specs and their corresponding test suites over the past 8 weeks. Green in both rows is good. A test a day keeps the bugs away.

Sort by Highlight isolated spec activity





Make WPT the default in Chromium

Triage new test failures

Upstream as much of LayoutTests as possible

~70k files, compared to ~60k in WPT now

Challenge: duplication and pre-fork WebKit tests

Can we relax?

No!
(trick question)

You can help!

- Write and use wpt for your work
- Tell us about what's not working
- Make 2-way sync work for everyone
 - Automatic 2-way sync in Gecko is coming!
 - Edge?
 - WebKit?

We can do it! \o/

