



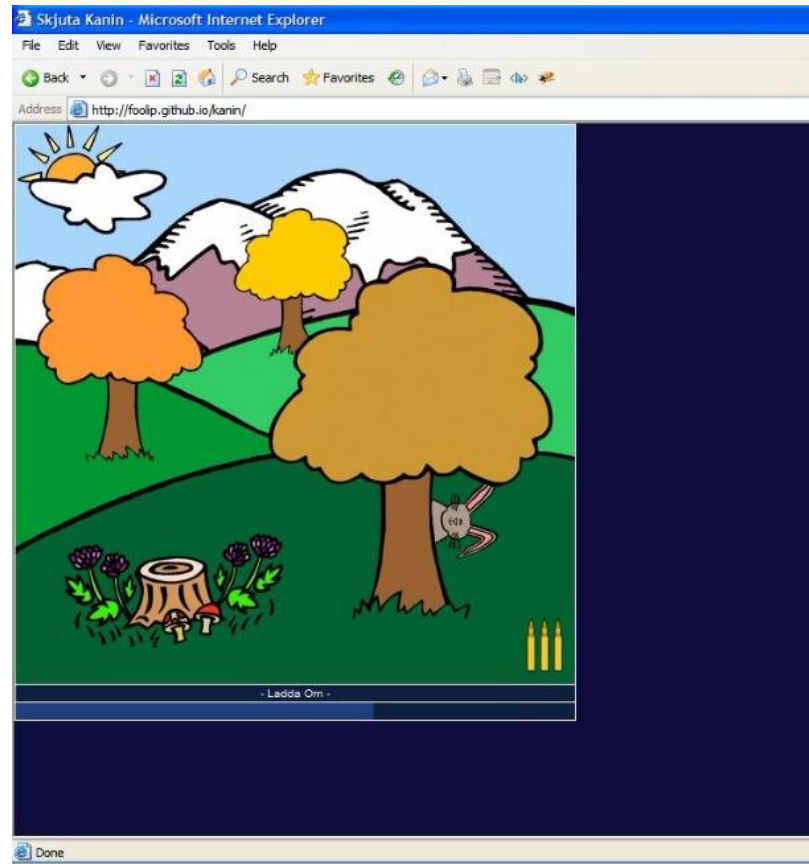
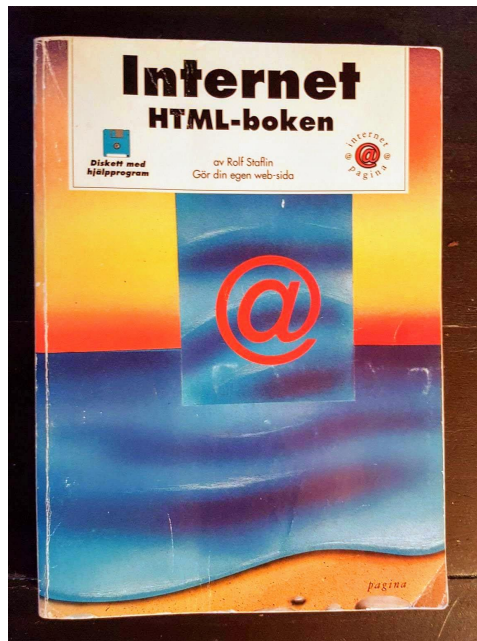
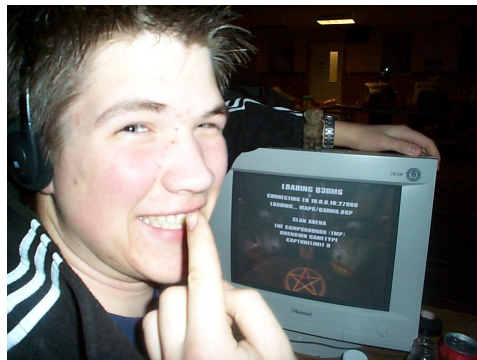
Improving interop with web-platform-tests

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

Slides: bit.ly/hackfest-wpt

Why care?

Joy





Mortality



Choice



Pain



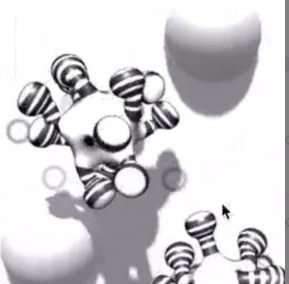
Lars Berg
@laserberg

Follow

knobby rolls 🎵

larsberg.net/sketches/2017/ ...

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



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



Thom McGrath
@tekcor

Follow

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



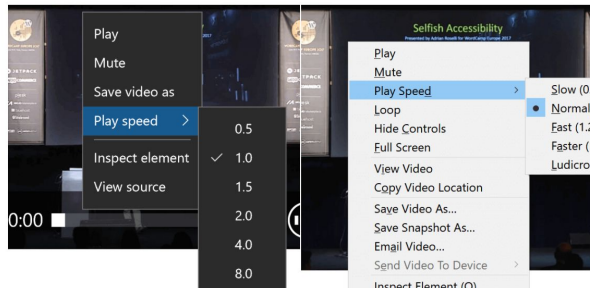
Adrian Roselli
@aardrian

Follow

Playback speed for <video> content works only in Windows, only in Firefox and Edge.

rosel.li/092217

Safari test by [@scottohara](#).



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

w3c / web-platform-tests

<> Code

🔔 Issues 234

🔗 Pull requests 162

📁 Projects 0

📊 Pulse

📄

Test Suites for Web Platform specifications—including WHATWG, W3C and others

🕒 11,482 commits

🌿 59 branches

📦 0 releases

Branch: master ▾

New pull request

 youennf committed with domenico Add fetch tests for URLSearchParams

📁 2dcontext Submit test_linedash from test_canvas.html to WPT;

📁 DOM-parsing/todo Add DOM parsing and serialization tests (#493)

📁 FileAPI Update FileAPI WPT idlharness

📁 IndexedDB Add new test to IndexedDB transaction abort tests. (#

📁 WebCryptoAPI Updated spec makes salt and info required. Tests up

📁 WebIDL Test current Realm (still to be defined in more detail)

📁 XMLHttpRequest Do not fire one last progress event on XHR errors, to

📁 ambient-light AmbientLightSensor: add some basic functionality tes

📁 annotation-model Now does not execute optional subtests that would fa

📁 annotation-protocol Implementation of annotation protocol server (#3634,

📁 app-uri Use correct paths to testharness.js and testharnessre

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
Reviewers Commit Bot, Ian Kilpatrick, Philip Jägenstedt
CC Matt Falkenhagen, Thiago Farina, Robert Flack, Kinuko Yasuda, Eric Willigers
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 Collaborator

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](#)

Already reviewed downstream.

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 [Member](#) + 😊 ✎ ✕

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 ... [ae14909](#)

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
/connat	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](#):

Pages

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[FAQ](#)

[IRC](#)

[Code of Conduct](#)

[Submit an Article](#)

[Copyright](#)

Archives

[July 2017](#)

[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

Web API Confluence

API Catalog Confluence Metrics

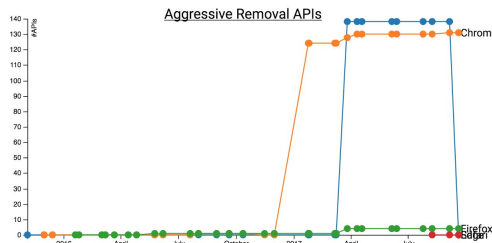
Confluence Metrics

API VELOCITY FAILURE TO SHIP AGGRESSIVE REMOVAL BROWSER-SPECIFIC APIS

Aggressive Removal

This site is a work in progress. If something doesn't seem right check out the [known issues](#) for this metric.

The Aggressive Removal metric is intended to indicate when browsers are removing APIs that developers can reasonably assume are still a part of the web platform (lower is better).



Code on GitHub

Feedback: Email or Google Groups

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](#)

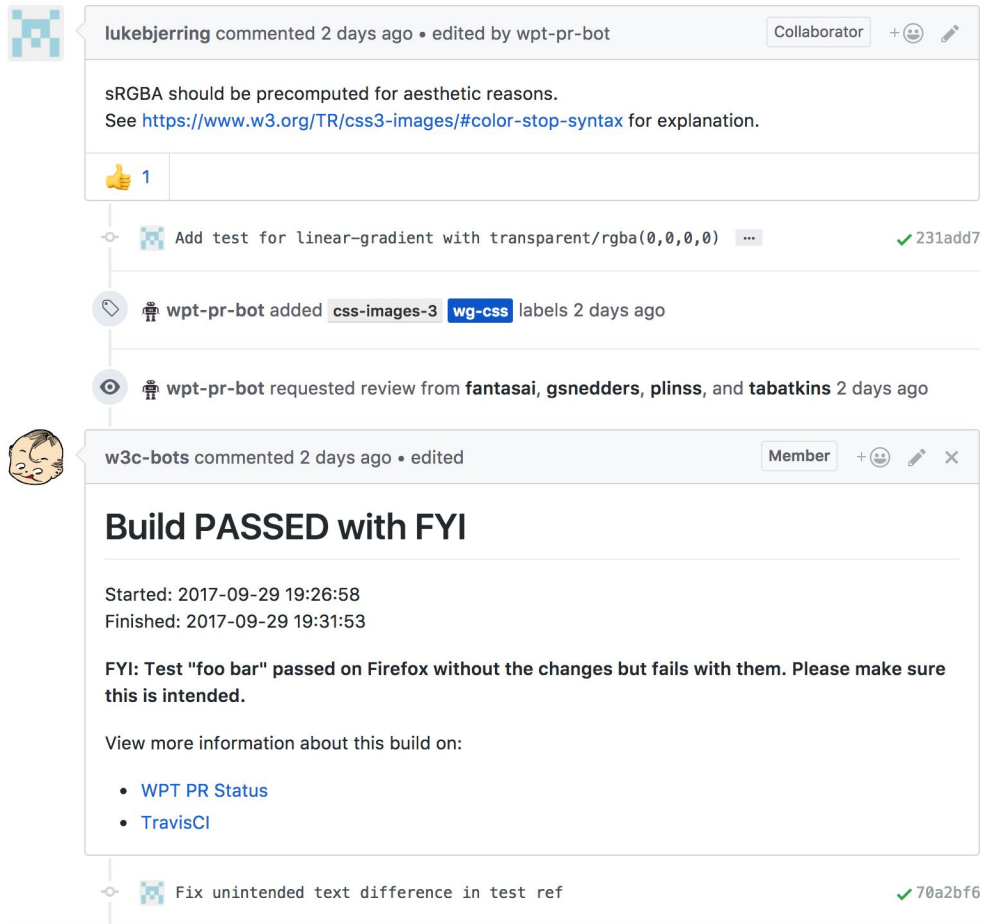
Data below are intended for web platform implementers and do not contain useful metrics for evaluation or comparison of web platform features. Also note that tested Edge and Safari are not pre-release versions ([#109](#), [#110](#)).

Spec				
	chrome 62.0	edge 15	firefox 57.0	safari 10
	linux 3.16	windows 10	linux 3.16	macos 10.12
	@de6ce4a47f	@de6ce4a47f	@de6ce4a47f	@de6ce4a47f
	Sep 30 2017	Oct 01 2017	Sep 30 2017	Sep 30 2017
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 screenshot displays a GitHub pull request interface. At the top, a comment from user **lukebjerring** (Collaborator) states: "sRGBA should be precomputed for aesthetic reasons. See <https://www.w3.org/TR/css3-images/#color-stop-syntax> for explanation." This comment has one thumbs-up reaction. Below the comment, a commit `231add7` is shown with the message "Add test for linear-gradient with transparent/rgba(0,0,0,0)". A bot comment from **wpt-pr-bot** indicates that labels `css-images-3` and `wg-css` were added. Another bot comment from **wpt-pr-bot** shows that a review was requested from users **fantasai**, **gsnedders**, **plinss**, and **tabatkins**. The main section of the interface features a comment from **w3c-bots** (Member) titled "Build PASSED with FYI". The comment body includes the build start and finish times (2017-09-29 19:26:58 and 19:31:53 respectively), a note that the test "foo bar" passed on Firefox without changes but fails with them, and links to "WPT PR Status" and "TravisCI". At the bottom, a commit `70a2bf6` is visible with the message "Fix unintended text difference in test ref".

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
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/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

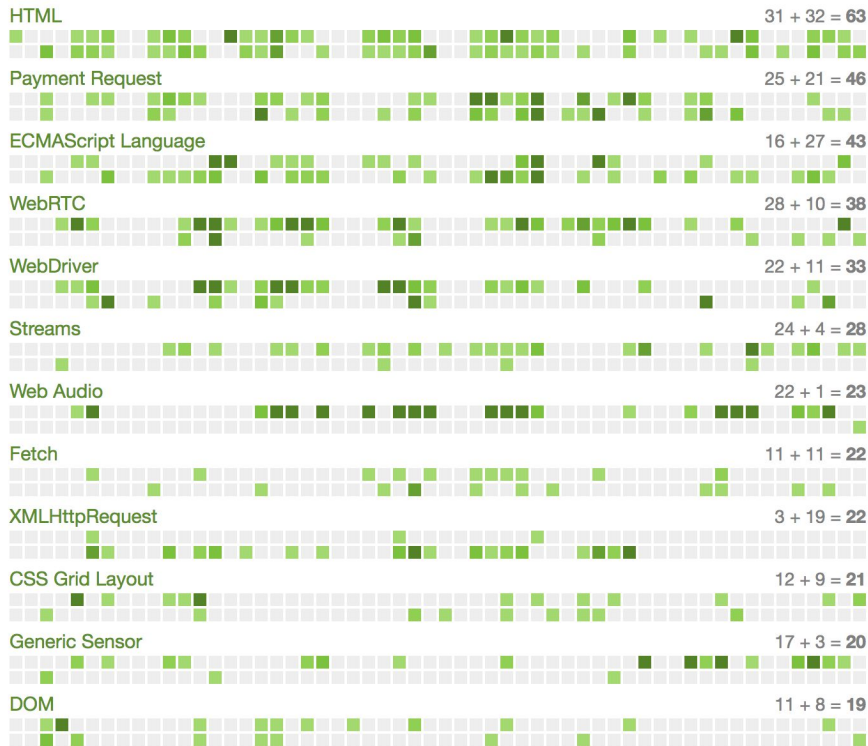
Visualizing the
day-to-day work
in specs and tests

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 total activity ☐ 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/
