

▲ JoshuaJB 1 day ago | parent | favorite | on: Browsers

"For example, they may start integrating technologies for which they have exclusive, or at least 'special' access. Can you imagine if all of a sudden Google apps start performing better than anyone else's?"

This is already happening. I very recently worked on the Edge team, and one of the reasons we decided to end EdgeHTML was because Google kept making changes to its sites that broke other browsers, and we couldn't keep up. For example, they recently added a hidden empty div over YouTube videos that causes our hardware acceleration fast-path to bail (should now be fixed in Win10 Oct update). Prior to that, our fairly state-of-the-art video acceleration put us well ahead of Chrome on video playback time on battery, but almost the instant they broke things on YouTube, they started advertising Chrome's dominance over Edge on video-watching battery life. What makes it so sad, is that their claimed dominance was not due to ingenious optimization work by Chrome, but due to a failure of YouTube. On the whole, they only made the web slower. Now while I'm not sure I'm convinced that YouTube was changed intentionally to slow Edge, many of my co-workers are quite convinced - and they're the ones who looked into it personally. To add to this all, when we asked, YouTube turned down our request to remove the hidden empty div and did not elaborate further.

And this is only one case.

reply

▲ XCabbage 1 day ago [-]

The behaviour that your co-workers claim Google engaged in sounds pretty exactly like the AMD-Intel antitrust case where AMD alleged that Intel's C compiler was deliberately crippling performance on AMD processors to help Intel's processors compete. If true, Microsoft *should* sue Google over it - not just out of raw corporate self-interest, but because this sort of conduct is evil and should be stamped out.

If this case hasn't already been run up to Microsoft's lawyers, start running it up to them. You'll be doing the world a service.

reply

▲ ksec 22 hours ago [-]

What will Microsoft gain if they Win? Nothing. Google has the upper hand in public image. Microsoft is still evil outside of Dev Circles. And IE did some ass moves as well in IE6 era, think about the PR mess this would lead.

It is not the best time to strike now, once the timing is right, I am sure they will.

reply

▲ sonnyblarney 14 hours ago [-]

"What will Microsoft gain if they Win? Nothing. "

They'll get a more level playing field.

CEO's generally don't order this stuff to happen. More often it's a director, manager, VP or whatever that's just really aggressive. Possibly the CEO knew or not.

When a company gets bloodied for a pile of money, they generally have to own up to it, which makes them look bad (by they way, these things do have a cumulative effect) - but more importantly, they have to at very least 'go through the motions' of getting staff to 'not do this stuff'.

So they have 'training' and 'oversight' etc.. However ingrained it is into behaviour (or even a single rotten apple) the likelihood of recursion goes down.

For example - if an inner legal team gets some responsibility for oversight on these issues, they can make life difficult for managers on these things.

I worked at a Fortune 50 that was sued by a patent troll, and it seriously and fundamentally changed internal culture to the point wherein we needed lawyers involved in everything, it was really bad. Obviously a negative example.

But especially Microsoft has enough \$ to drag Google into court, they should do it.

That said: I'll bet \$100 that MS might be doing some tricky things of their own anyhow.

reply

▲ yankdevil 54 minutes ago [-]

There are dev circles where Microsoft isn't evil? I've been a Unix/Linux dev for thirty years so maybe I'm not keeping up, but the general view was that if Microsoft had a platform we needed to target it was because it made us money and we assumed we'd eventually get burned - which nearly every time we did.

And I've worked for Google in the past, but their main issue has always been that they change a lot which makes them a moving target which is annoying in its own way.

Microsoft earned its public image and while it's made nicer noises recently it's not an organisation that fills me with trust.

reply

▲ pjmlp 21 hours ago [-]

I wonder whose circles are those, most non-technical people I know doesn't care less about evil, good or whatever.

reply

▲ Faark 20 hours ago [-]

Google will continue to have the upper hand in public image until stuff like that happens. Yes, this would be a PR challenge, but one MS might even be able to spin in a way they can benefit from...

reply

▲ XCabbage 21 hours ago [-]

> "What will Microsoft gain if they Win?"

Uh, money? It might not exactly be a noble incentive for a lawsuit, but it's sure as hell an incentive, isn't it?

reply

▲ sangnoir 15 hours ago [-]

I wonder what sort of information Google might dredge up during discovery that Microsoft wouldn't want to see the light of day. I'm no lawyer/accountant, so I don't know what amount of money would be worth that risk.

With a lot of legal issues, sometimes the only winning move is not to play.

reply

▲ gpshead 13 hours ago [-]

hiybbprqag for one - <https://www.wired.com/2011/02/bing-copies-google/>

reply

▲ enusan 8 hours ago [-]

Agree.

What Microsoft gain after Windows Phone YouTube app case? Nothing. Google successfully fucked up Microsoft.

reply

▲ eganist 23 hours ago [-]

Fascinating. I wonder what the counter-argument would be; that a website isn't software, perhaps? That argument could be sufficiently argued apart by equating manually downloaded/installed software with code that's manually downloaded (GET / host: youtube.com) and run in a browser context.

I'd be curious to see how likely Microsoft would be to follow this approach rather than to just stick to using Blink... as they've already decided to do.

reply

▲ bonesss 4 hours ago [-]

The counter arguments are a) broken rendering in your browser does not dictate how my websites have to be, and b) since when is Google a monopoly on standardized HTML web video?

Google could start responding to YouTube requests with binary streams of gibberish if they want, MS would only have standing to sue as a content creator and advertiser on YouTube.

If Google is reverse engineering other browsers optimization paths and putting out content that is disagreeable to that optimization, that's possibly unfortunate but not illegal.

reply

▲ rst 22 hours ago [-]

Another example: on Android, look up scores of an ongoing sports event on mobile Chrome, and mobile Firefox. Mobile chrome gets you a box saying what the score actually is; mobile firefox just shows you the links to sports-league and news sites that you see *under* the score in mobile Chrome.

Click the "show desktop view" page on mobile firefox, reload, and suddenly the score is there. They're not discriminating that aggressively against competing desktop browsers. Yet.

reply

▲ cramforce 16 hours ago [-]

Counter anecdote: As a Google engineer it always seemed like Edge implemented the sparsest possible version of the web platform to make major Google products work- and literally nothing else. That works to launch the browser, but then basically any product change runs a chance to no longer fall into that sparse subset and break in a browser. If Edge had implemented a more robust set of features, it would have massively improved compatibility down the road.

reply

▲ Mil0dV 15 hours ago [-]

Features like empty divs on top of video? Could be by accident ofc, but the entire story makes this unlikely.

reply

▲ magicalist 14 hours ago [-]

> *Features like empty divs on top of video? Could be by accident ofc, but the entire story makes this unlikely.*

I'd suggest inspecting a few sites you watch video on. An empty div is the least weird thing you'll find.

reply

▲ pcwalton 13 hours ago [-]

I highly suspect that the issue is that Windows video playback can only use scanout compositing if there is nothing on top of the video. Scanout compositing is significantly more energy-efficient than standard framebuffer compositing because it avoids a memory copy each frame.

This ultimately comes down to hardware limitations. GPUs are limited as to what they can compose during scanout, because of memory bandwidth limits. Each plane that you can alpha-blend together at scanout time multiplies the amount of memory fetches per dot you have to do. On today's high-DPI displays, the bandwidth going out to the display is very high to begin with, so you can't afford to multiply that by much. That is why putting something on top of a video is tricky: you're adding another layer to be alpha-blended on top, increasing your memory bandwidth by 50% over the two layers you already have (RGB for the background plus YUV for the video). The user's GPU may or may not support that--as I recall, prior to Skylake, Intel GPUs only had two hardware planes, for instance.

I'm not surprised that Microsoft just used "are there any DOM elements over the video?" as a quick heuristic to determine whether scanout compositing can be used. Remember that there is always a tradeoff between heuristics and performance. At the limit you could scan every pixel of each layer to see whether all of them are transparent and cull the layer if so, but that would be very expensive. You need heuristics of *some* kind to get good performance, and I can't blame Microsoft for using the DOM for that.

reply

▲ magicalist 12 hours ago [-]

> *You need heuristics of some kind to get good performance, and I can't blame Microsoft for using the DOM for that.*

which, again, that's fine, but mayyyyyybe they were a little lax in checking performance on nearly any other popular video site on the web to see if that heuristic is a good one?

Or maybe changing page layout in an extremely common way wasn't an effort to undermine a hyper specific benchmark?

reply

▲ pcwalton 12 hours ago [-]

How many sites put *invisible* DOM elements over the videos?

Remember, if you put visible DOM elements on top of the videos, then you lose scanout compositing no matter what.

reply

▲ magicalist 11 hours ago [-]

> *How many sites put invisible DOM elements over the videos?*

A lot of them? Vimeo, for instance, has a number of opacity: 0 and hidden divs over the video. Twitch has at least a couple of opacity: 0 divs on top.

Maybe we're interpreting the phrase

> *hidden empty div over YouTube videos*

different? That's the structure I assume they were talking about.

reply

▲ seba_dos1 7 hours ago [-]

I'd assume that it was actually an invisible, but not technically hidden div, leading to a fully transparent blending pass - divs with opacity:0 or display:none are trivial to optimize for this case.

reply

▲ magicalist 4 hours ago [-]

> *I'd assume that it was actually an invisible, but not technically hidden div*

Considering that it's now optimized and that's not what the original post said, I don't know why you'd assume that.

reply

▲ DrPizza 14 hours ago [-]

On the other hand, pretty easy how such a div might trigger a less efficient path; if the video is top in the z-order then it can probably bypass being composited by the browser (and who knows, maybe even bypass being composited by the OS) and avoid a whole mess of rendering to a texture, texturing some triangles, and so on and so forth.

reply

▲ magicalist 14 hours ago [-]

ha, just saw your story over on ars.

FWIW, I think you're a little credulous there; as I mentioned in my other comment[1], I can't find anything stating that Chrome starting beating Edge at the test (their videos actually claim the opposite) or anybody from Chrome boasting about it (articles from the time like yours[2] also say the opposite).

> *On the other hand, pretty easy how such a div might trigger a less efficient path*

I mean, sure, you can always fall off the fast path, but given how common transparent divs over video are, the battery benchmark should have come with even more caveats. Edge is the most battery efficient browserst!

† for playing fullscreen video††

†† Battery test not valid if the page doesn't use the exact layout youtube used in December 2017. Also not valid if testing vimeo, or twitch, or any porn site, or...

[1] <https://news.ycombinator.com/Item?id=18701430>

[2] <https://arstechnica.com/gadgets/2018/05/edge-still-boasts-be...>

reply

▲ DrPizza 11 hours ago [-]

I don't think the performance claiming is really the important part here; it's doing something that lacks any real reason but which hurts Edge.

And while I agree that video overlays are common, I also think it's reasonable for such overlays to revert to a slightly less efficient path.

reply

▲ bonesss 4 hours ago [-]

> it's doing something that lacks any real reason but which hurts Edge.

In my own web development activities I can point to hundreds upon hundreds of hidden, invisible, and obscured DOM elements that have no obvious reason for to existing to someone outside the code-base where you find the comment explaining the required work around, browser hack, or legacy constraint. I've also experienced wildly divergent performance on MS browsers compared to others when creating content, often from something as trivial as DOM order or composition.

Clearly Google owes me some money for my part in their ongoing conspiracy to hurt Edge. I'm flexible, I'll accept GCE credit :)

reply

▲ magicalist 4 hours ago [-]

> *it's doing something that lacks any real reason but which hurts*

Hey, there's a new div in the DOM, the only possible reason for a change like that is so Chrome can advertise about beating Edge on a benchmark nobody cares about? Even though they never beat Edge on it and this "advertising" never took place?

This was the credulity I was talking about. These events didn't happen (you literally wrote the stories plural! about edge winning the benchmark) and the motivations make no sense. I'm not sure why you'd repeat it without even a warning that it may just be a narrative made up from grumblings about fixing a fast path heard third hand.

reply

▲ perlunar 1 day ago [-]

That sort of behaviour should be called out and publicised widely.

Given how easy it is to delete an offending div using the dev tools, it would be easily verified by web developers. There'd be a thousand blog posts and news stories saying "Google deliberately sabotages Edge on YouTube" and the public blowback would be pretty damaging I imagine.

reply

▲ TheRealDunkirk 1 hour ago [-]

I just started a new job at a MASSIVE international conglomerate. I was literally told that an intranet site I needed to use would only work in IE, and that it specifically would fail to render fields if I used Chrome. It's a little disingenuous to hear these kinds of complaints coming from the company which distorted the browser market so badly that the world is still paying for it 20 years later.

reply

▲ pitkali 1 hour ago [-]

So now it's okay because it's done to an actor that you consider deserving of such treatment? People said such behaviour is wrong, so they changed their act. Why wouldn't you hold others accountable to the same standard? What is the point of listening to the criticism and correcting your behaviour if it will be okay for others to keep punishing you?

Seems counterproductive to me.

reply

▲ centurion66 6 hours ago [-]

> *For example, they recently added a hidden empty div over YouTube videos that causes our hardware acceleration fast-path to bail (should now be fixed in Win10 Oct update). Prior to that, our fairly state-of-the-art video acceleration put us well ahead of Chrome on video playback time on battery, but almost the instant they broke things on YouTube, they started advertising Chrome's dominance over Edge on video-watching battery life.*

Huh?

First, I can find nowhere that Chrome claimed to have better video-watching battery life (in fact, popular tech sites mention improving but still worse[1]).

Second, the only dip I can find in the public Edge battery life tests[2] was

April 2017 - 12.5 hours

Dec 2017 - 16 hours

May 2018 - 14.3 hours

vs Chrome's 9.3, 13.5, and 12.5 hours. Which means whatever happened last spring, Chrome *also* dipped.

And third, how about we talk about the kind of *web browser* battery benchmark based on playing fullscreen video and is defeated by adding a single hidden div? It's not testing battery life of a representative sample of what a web browser is actually used for (especially over 12+ hours), and obviously wasn't very resilient in the face of what a web browser has to actually handle.

Honestly it sounds like they added a div for unrelated reasons (accessibility, "security", "ads, who knows), thought it was worth the performance tradeoff (or never measured), and it indirectly ended up making Edge better for real web content (as of the Win10 Oct update).

[1] <https://arstechnica.com/gadgets/2018/05/edge-still-boasts-be...>

[2] https://www.youtube.com/playlist?list=PLWs4_NfqMtoxOT8E8d5KP...

reply

▲ kikipinskern 23 hours ago [-]

These are, however, changes to Chrome and not Chromium, right? Even with a move to Chromium, anyone/everyone is still going to be tied to Google. Having an open source engine means next to nothing if Google plays these kinds of games, abusing its dominant position. Having Edge updates tied to OS updates seems to be more of a problem than EdgeHTML itself, unless there are other issues (and there probably are) in play.

reply

▲ Manishearth 17 hours ago [-]

Chrome and Chromium share the same engine, and for this stuff it is the engine that matters.

reply

▲ WorldMaker 14 hours ago [-]

For now, at least. AOSP and Android "share the same engine", supposedly, but API footprint standardized in AOSP is getting drastically distanced from the API footprint moved behind Google Play Services and other proprietary bulkheads. The number of APKs that run on non-Google Play enabled AOSP builds has dwindled fast in the last few years. (Just ask Amazon.)

What's to stop "YouTube needs Genuine Chrome™" with Google Play® Support Services Installed"?

reply

▲ bonesss 4 hours ago [-]

What's to stop that now?

They could throw up a check and have "Youtube requires Chrome XX.X with the Evil-DRM plugin enabled" live whenever they want. It's the relevant market forces and ecosystem.

reply

▲ ttty2 1 day ago [-]

I think it's interesting. Did you investigate why they added that div?

reply

▲ ericlaw 23 hours ago [-]

Many "irrational" decisions are related to interactions with anti-bot/anti-fraud logic.

I worked on IE in the days when there were many crazy conspiracy theories about silverlight and IE collaborating to ruin the open web. This sounds similar.

reply

▲ gregknicholson 1 day ago [-]

Antitrust?

reply

▲ technomage82 15 hours ago [-]

didn't MS did the same thing in the past?

reply

▲ MkMoksha 12 hours ago [-]

Well why microsoft made IE default browser on windows pc and why SharePoint doesn't work well with non IE browsers and why excel still can't Handel vba loops and why Skype takes few seconds when multiple users ping one user and Microsoft still charges for licensing.. Its the battle to be lesser of the evils

reply

▲ dkxlv 23 hours ago [-]

The best part of this anti-trust/microsoft conspiracy is that it involves Microsoft — but now, as opposed to the IE dominance in the 00's, Microsoft is the victim. So ironical. How's the taste of your own medicine? :)

reply

▲ eganist 23 hours ago [-]

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How is this productive?

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