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Solving the Chrome Conundrum

WHAT THE DIVESTITURE OF CHROME MEANS FOR CHROME AND THE WIDER WEB

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Since the US Department of Justice (DoJ) announced that it intends to seek the divestiture of Google's Chrome browser there has been much speculation about what this means for Chrome and the wider web. It is hard for many to envision what a post-Google Chrome might look like, how it might work, and who would pay for it.

An essential starting point for the understanding of what is being proposed is to remember that the separation of Chrome from Google is a remedy to a monopoly problem. The monopoly is over the online Search and text advertising markets where Google has been found to have a monopoly and to be abusing its market position in breach of US antitrust law. Chrome is part of the remedy since Google's monopoly has been found to stem from agreements with rivals such as Apple, Telcos and OEMs to prevent them from building their own search engines or selling a device with a rival search engine installed. Google also prevents its rivals from installing browsers and other Search Access Points. So, the US DOJ has proposed that by way of remedies all rivals should be allowed to build, install and ship competing products and that search access points should be separate from Google's search business, with rivals also being granted access to its search index. The hope is that the combination of remedies will break Google's monopoly on search and search advertising.

My organisation, Movement for an Open Web has been considering this issue for some time and, in early 2024, we wrote "Breaking up the browsers. A proposal for the save the Open Web" to assist regulators in understanding how light touch intervention can drive innovation and break monopoly control in digital markets.

Co-authored with economist Tony Curzon-Price, competition lawyer Tim Cowen, and product executive Joshua Koran, I'm proud of the positive vision presented and delighted regulators like the DoJ are now seeking the divestiture of Chrome as one of many remedies to Google's monopoly abuses. The EU Commissioner is on record that break up is inevitable. Other regulators will follow.

As we now benefit from at least one concrete regulatory position, I want to define what a separate Chrome, and its more important open-source foundation Chromium, will look like.

This article outlines the key aspects of a post-Google web browser eco-system to dispel the fear, uncertainty, and doubt being cast over such remedies by Google, Apple, and their acolytes.

Chromium First

Chrome is built on the open-source [browser engine Chromium](). Google provides most of the engineering might and governs the change process with input from Microsoft, and a few others like services organisation [Igalia]().

The Chromium project must stand on its own in a post-Google world. It needs to operate like the Linux Foundation which provides the code that underpins many operating systems including Apple's and Google's.

A new legal entity, perhaps titled the Chromium Foundation, should be created as a not-for-profit with bylaws restricting its scope of operation to web access and enabling interoperability only. That scope would include technologies like Cascading Style Sheets (CSS), Hyper Text Markup Language (HTML), Math Markup Language (MathML), and JavaScript (JS). Strictly out of scope will be subjects like ethics, privacy, and other policy positions. Chromium Foundation would be prohibited from participating in such discussions.

Features like; advertising, payments, passwords, data protection preferences, consent, identity, age verification, authentication, wallets, search, AI, and more should also all be strictly out of scope for Chromium Foundation. These are features that benefit from competition and do not need to be centralised. Keeping them out of scope will simplify the mandate of the Chromium Foundation and will reduce the required funding.

Cost

When you suggest that Chromium should be divested to a not-for-profit, the first question is 'who will pay for it?' Luckily, there are sufficient businesses that need a reliable web browser to provide the funding for Chromium Foundation.

Cloud companies like Salesforce, Oracle, or Adobe all depend on a stable web browser. Microsoft, Brave, and others already build on top of Chromium. There are plenty of businesses that can easily fund and have the incentive to fund the Chromium Foundation. The amount of money involved will be achievable once the project is slimmed down by Google (see below) prior to hand over. Based on Mozilla's overall budget of ~$500m, and considering core functionality only, and less frequent releases, $200m* per year for Chromium Foundation seems reasonable. (*See Appendix).

Chrome as a standalone entity will require limited revenue as it will effectively be a market facilitator. Funding can be achieved via a small and proportional transaction fee or revenue share. In time other market facilitators might appear including existing browser vendors struggling to monetize in a post-Google-funded world.

To ensure stability Google as part of the remedy would be required to provide sufficient funding to ensure both Chromium Foundation and Chrome are viable without new revenue for at least three years. After all it has been proven that Google has benefited from an illegal monopoly for over a decade. Better that some of the spoils of this illegal activity are invested in the eco-system than levied as simple fines.

Control

A challenge when considering a Linux-type model is that of ownership and control. Who will oversee the process? The answer to that is that Chromium is now too important to be controlled

by a single company. Merely transferring who owns the monopoly is not a remedy. It is a necessary public service and must be controlled and managed as such. Governance will need to be truly independent of Google, and any technology company. The ability for any business to capture its destiny must be designed out.

Like Linux, The Chromium Foundation needs to be a not-for-profit run for the good of society and funded via donations and people's time. The pace of change and new features will be governed by those prepared to step up and pay the bills or donate their talents.

Regulators would have an oversight role to guarantee fair play but the structure of the organisation should mean that competition is a feature of the process.

Crud

Related to cost, others will point to the complexity and size of Chromium as a hurdle. Its scope and depth would imply huge running costs. Fortunately, there's a lot of Google specific crud that can be removed.

Privacy Sandbox is one such example. It can simply be deleted from Chromium with no consequence. There are others.

X-Client-Data is one of the most egregious self-preferencing Chromium features hiding in plain sight. It involves sending sufficient data to form a globally unique cross-context identifier for a web browser to Google's domains when operated in a so-called third-party context. This happens when fetching a font! Google have the data to track people across all web activity via this single feature. Privacy will instantly be improved and amount of source code reduced reducing cost of maintenance and increasing performance of the web experience. A true win-win.

The DoJ requires Google to make these modifications before handing over the project to the new Chromium Foundation.

Components

But, you might ask, if we strip out everything but web access and interoperability from Chrome, where will users get their functionality? How will they manage their passwords, make payments or verify their age in the way they do with existing Chrome services?

Movement for an Open Web believes that far from posing a problem this is the biggest opportunity to drive competition and innovation in the Open Web since 1998. These components should be provided by third party businesses to create a genuine marketplace for functionality.

There is already a component market in web browsers termed extensions. Most people haven't used them. It is possible today for any party to create an extension component that can be added to the web browser to provide specific features.
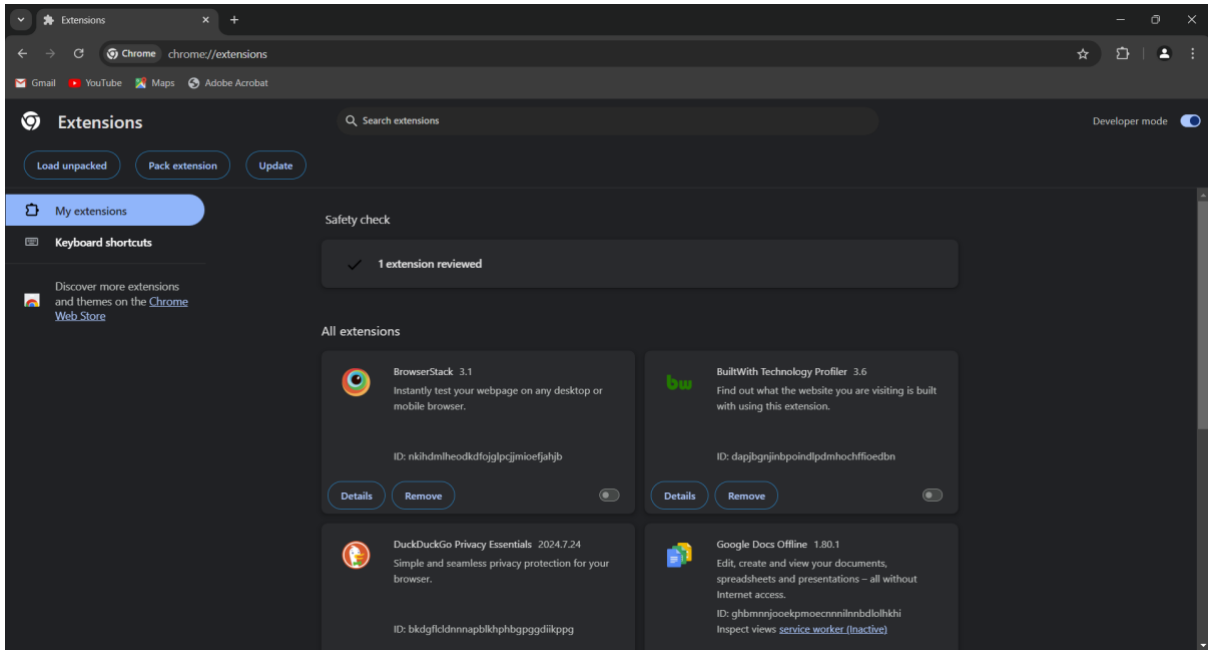
Figure 1 - Example of extensions available in Chrome

Categories of components need to be defined with common standard technical interfaces (think plugs and sockets) that enable them to be shared across browser engines.

As an example; a common, interoperable interface for authentication would be created within Chrome. People can then choose which password manager they want to use with it. There would be competition in password managers, perhaps some linking to cloud storage and sharing passwords across devices, whilst others might integrate two factor authentication and provide seamless login so long as the browser and authentication device are within two meters of one another.

To choose a current hot topic in browser functionality concerning privacy and advertising, those that wish to continue developing Privacy Sandbox in a post Google Chrome would be free to do so as an extension component. People and publishers can then decide on the extension components that align to their privacy choices, if any, that they wish to use to receive free access and advertising monetisation.

Vendors of such services can choose between advertising or payment business models. Many entrants will come into the market once it's no longer a requirement to own a web browser to be able to viably provide such services. Consumer services would be improved in a frictionless market for innovation. Such a market for all features would be a huge win for competition regulators and society.

Configuration

With many components comes virtually infinite choice. How will people decide which components to use? Do they really want this choice?

Some people will relish the ability to precisely configure their browser extension components and experience. Most won't. Most will simply want to use a configuration someone else they trust has setup and verified as having certain characteristics they care about. This trust architecture is

natural to people. Fundamental to a post-Google Chrome will be a market not just for extension components but also for configurations of browser engines and feature components.

For example; Oprah Winfrey or Martin Lewis might create their own web browser configuration and then publish it so others can use it. When people setup their Chrome browser they simply choose who they follow and trust to provide the default configuration. They are no longer obliged to select Google or Apple, but an independent source they trust. They might then subscribe to updates paying a small subscription fee or receive advertising to encourage the maintainer to update the configuration. A new competitive market for configurations will be created where people can be as involved - or not - as they wish.

The power associated with the browser defaults, the heart of competition issues, will be decentralized and returned to the hands of market participants.

Cadence

Another area which critics would point to when it comes to an independent Chromium and Chrome is the cost of keeping it up to date. Chrome users will be used to near-weekly updates and how could any independent business manage this cadence without Google's resources? The simple answer is that it's unnecessary.

Google stepped up the pace of update release for Chrome/Chromium decades ago. It did this to make Safari and Firefox look bad as they made changes less frequently. Google could simply outspend them. There's no reason to continue such a fast pace of releases for anything other than security hotfixes.

Chromium Foundation slowing down to one major feature release a year will do a lot to restore stability to the web. This is not unusual as technology markets mature.

As the majority of competitive features will be delivered via related markets for extension components this will have no impact on people's ability to benefit from innovation and new features rapidly. Indeed, the inherent stability generated will be a benefit for extension component providers.

Codecs

Understanding the difference between Chrome and Chromium is important to this new web browser world.

Not all software is open-source and can't be made available for free. Some software needs to be licenced. Codecs, the pieces of software that make video and audio possible, are one such example where specific patented intellectual property is involved. That's why a Chromium web browser won't be able to handle some types of video and audio on its own.

These features could be delivered as extension components and enabled via configurations. However, it seems likely there will be some non-open-source features that are considered so foundational as to be part of the web browser engine and need to stay within Chrome and not be part of the Chromium Foundation despite relating to access and interoperability. Fortunately, the number of such features is limited.

Chrome as a standalone entity needs to do the following;

1) Build on Chromium Foundation as an equal to other funders and supporters.

2) Incorporate a limited number of non-open-source features like codecs where they are not extension components.

3) Facilitate a market for extension components and configurations.

Consequences

If someone commits a crime they don't get to keep the spoils. The same must be true for monopolists. The value of Chrome will be significantly altered by these changes because it can no longer be used as a point of control. That's the point of the remedy.

This consequence is proportional to the timeframe and excessive profits Google's shareholders have received from operating an illegal monopoly. Alphabet shareholders should have factored into their valuation the well-publicised regulatory intervention taking place over the past four years. If they didn't that is not the fault of regulators or anyone else.

Culture

I suspect many of the people that work on web browsers will be delighted to freed from the shackles of Google. They will be free to work on the web browser for the good of the web without having to consider the politics and optics of their prior parents. They will be free to use their talents to enter the competitive extensions market and perhaps donate some of their time to the Chromium Foundation.

Conclusion

The answer to problems of the past will not be found in perpetuating the past. That means reimagining the role of the web browser, how it is funded, and creating a market the encourage new entrants and innovation. Web browsers are now critical infrastructure and need to be treated as such. The changes highlighted here have been proven in other industries and other components of the digital market including telecoms and operating systems. They are not revolutionary.

Appendix

Funding assumptions

Cost savings in the maintenance of Chrome would come from a number of different areas as a result of its separation from Google:

If we assume an average developer costs $100k USD per year, and that the additional costs of employment and infrastructure is twice their remuneration, then $200m gets about 650 developers a year. The average salary for developers will fall because the incentive to overpay will diminish now that Chromium is a true commons, and not a toll gate for monopoly rents. So far in 2024 2,423 different people contributed to Chromium. Many don't work full time on the project.

The cadence of releases will reduce as stability is more important than pace of change. Additionally, Google has deliberately introduced constant updates to disadvantage the competition. Perhaps one major release a year, hotfixes, and a few minor releases should be sufficient to maintain a stripped-down Chrome.

Google will be required to hand over to the Chromium Foundation some of their ill-gotten gains to fund its ongoing development, potentially sufficient to support its operations for 10 years.

Those businesses that want or need changes will need to start paying for these to be incorporated, or else they can create an extension for their feature which can participate in the competitive extensions market.

The reduction in complexity comes from both removing Google self-preferencing and the OS code which would not be part of the web browser any more, and then tidying up the code. 'Tidying' would encompass all the variations for YouTube etc, the flags for testing such as turning features on and off and tracking everything. These reach across the code base - examples here. Top down perhaps as much as 30% of the code base can be removed as part of the transition.