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Competition and Markets Authority (CMA)
By email to: mobileecosystems@cma.gov.uk

Re: Mozilla’s Response to the Mobile Ecosystems Market Study

Mozilla welcomes the opportunity to provide our comments to the Interim Report of the CMA’s Mobile Ecosystems Market Study. As a public benefit organization, we play a vital role in keeping the internet open. We appreciate the CMA taking the time to understand the mobile ecosystems and particularly the role of browsers to enhance competition online and protect consumers. The report reflects a broad range of inputs from across the industry and can serve as an invaluable resource for similar investigations across the world, given the rigor and depth of its analysis. Greater cooperation between jurisdictions in investigations can enable regulators to share insights and approaches that lead to quicker investigations and more globally consistent and effective remedies.

Our public response will primarily focus on recognising the positive developments in the interim report for the browser ecosystem, identifying some key areas where we believe these could be improved in the final report and finally identifying some high level recommendations for the Digital Markets Unit (DMU) operations.

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Mozilla and its Role in the Web Ecosystem

I. Introduction

The internet should be the ultimate playing field for competition. It has the capability to be a decentralized and interoperable place where any company can advertise itself and offer its services, any developer can write code and collaborate with others to create new technologies, and any consumer can navigate information, use critical online services, connect with others, find entertainment and improve their livelihood. This is all irrelevant without a browser. Like traveling in a vehicle, navigating across websites is both a personal and very public experience; interception, tracking, targeting, cryptomining, and identification are all possible. The browser is a powerful user-agent in the device ecosystem that can empower consumers to go wherever they want online without restriction, and to do so in a safe, private, and secure way.

The internet crossed one billion users worldwide in 2007. That year also marked the beginning of platform ecosystems that would eventually be referred to as "GAFAM." Google launched Android, Apple released iPhone, Facebook started to scale globally, Amazon released Kindle, and Microsoft continued its popularity on computers through the Windows Operating System.

That same year it was steeped with the infinite possibilities of software to transform society and the realities that software is generally created with corporate incentives, that Mitchell Baker (Chairwoman of the nonprofit Mozilla Foundation) published the 10 principles of the Mozilla Manifesto "for the Internet to continue to benefit the public good as well as commercial aspects of life."¹

II. Mozilla, Firefox, & the Open Internet

Mozilla is a unique public benefit organization and open source community formed as a nonprofit foundation in the United States. It is guided by the set of principles shown above that recognize, among other things, that the internet is integral to modern life; the internet must remain open and accessible; security and privacy are fundamental; and that a balance between commercial profit and public benefit is critical.²

Our Public Mission & Incentives

Mozilla's story originated in 1997 with Netscape Navigator, the original consumer browser and a popular browser of the 1990s. In a historic move for competition, Netscape publicly released its new browser engine (called "Gecko") under an open source license to enable others to verify, improve, and reuse the source code in their own products. Although

¹ <https://blog.lizardwrangler.com/2007/02/13/>

² Mozilla's 10 Principles, <https://www.mozilla.org/about/manifesto/>.

Netscape did not last after its acquisition by AOL, its open source browser engine Gecko has continued to shape the internet.

The non-profit Mozilla Foundation was created in 2003 to continue work on open source browser technology and with a larger mission to preserve the open internet. Firefox v1.0 was released in 2004 using Gecko with volunteer open source code contributions from around the world, and it was one of the first major consumer facing products to be built in this way using open source methodology. Today localization developers continue to make Firefox available in local languages and with local customizations for their communities to access the internet. Other developers have forked the Firefox codebase and used the Gecko browser engine to create new browsers with different features. The most well known example is Tor, an anonymity browser frequently used by journalists and human rights activists.

In 2005, the Mozilla Foundation created a wholly-owned taxable subsidiary, the Mozilla Corporation, to serve its public mission through open source technology and product development of Firefox. In addition to remaining the sole shareholder of the Corporation, the Foundation advocates for better privacy, trustworthy AI, and digital rights and runs philanthropic programs in support of a more inclusive internet. These programs currently include fellowships and awards that invest in community leaders who are developing technology, policy, education and norms that will ultimately protect and empower people online.

Building the Internet through Open Source Development

Mozilla has spent years building the internet as an open and interoperable platform, especially through our work with Firefox and Gecko. Privacy and security have been fundamental to this work. Mozilla has influenced major companies to adopt better privacy practices such as browser anti-tracking measures and influenced consumers directly with tools to improve digital literacy and better understand third party data collection. It has also sponsored projects to break down barriers for developers. For example, Mozilla previously created an open source mobile operating system (Firefox OS) and app store premised on HTML5 "web-apps" interoperable with any device rather than the "native app" single device approach. Today Mozilla sponsors crowdsourcing projects for location and speech data for developers to access high quality and free data sets to make products for their local communities.

The incentive for Mozilla's work has always been to level the playing field so that competition can thrive and people can shape their own online experiences.³ Although GAFAM platforms have contributed many successful innovations to improve the internet, they should not be gatekeepers that reduce it into walled gardens. The internet should be the ultimate universal platform that can grow and thrive with new independent technologies developed by people and companies around the world. This is Mozilla's North Star and we

³ See Mozilla Principle 5.

believe it is necessary for effective competition and regulation designed to promote both the consumer interest and a healthy competitive environment.

Beyond browsers, Mozilla is a home for talented engineers that make the internet more secure, fast, private, and functional in multiple ways. We continue to play a key role in browsers, standards, and open source community initiatives. For example, we have made online commerce and navigation safe through protocols and initiatives like TLS 1.3 and Let's Encrypt.⁴ We have created foundational compilers and programming languages like Rust and Web Assembly which are now coordinated by new open source communities for emerging industry applications. We have contributed significantly at global standards bodies to the future of the internet through voice and speech recognition, mixed reality experiences, and royalty free video and audio codecs that make streaming better and more affordable. Mozilla does this despite its small size—less than 1,000 employees worldwide—a fraction of the giant technology companies competing in these spaces.

Promising Developments in the Interim Report

The CMA's interim report is a comprehensive study of the modern mobile ecosystem that can be valuable for regulators around the world. Many of the sub-issues covered in the report, such as the impact of web compatibility on user experience and the role of mobile browser engines in enabling true interoperability on the open web, are issues that we believe are important to address. Some of the key insights from the interim report that ~~endorse~~ show promise are -

1. Importance of Browser Engines and Impact of Restrictive Product Policies

The CMA's report performs extensive analysis on the importance of browser engines in the web ecosystem and the indirect network effects that incentivize developers to build their websites to ensure compatibility with engines that have the greatest number of users. This impacts the ability of smaller players (both browsers as well as service providers) to effectively compete in the market due to web compatibility concerns. These concerns are further exacerbated by operating system level restrictions on browser engines that create significant barriers for browser developers and prevent consumers from accessing and using a variety of browsers to fit their needs. Without regulatory intervention we believe there will be no change to the status quo, harming competition in browser engines and browsers, and harming innovation online.

2. Critical Role of Open Standards in Web Compatibility

Open internet standards are the linchpin to interoperability online. Consumers experience website breakage, service unavailability or inconsistent implementation

⁴ Mozilla co-founded the Let's Encrypt project to provide free digital certificates that enable site owners to adopt HTTPS encryption. This promotes security and privacy for all internet users. See https://en.wikipedia.org/wiki/Let%27s_Encrypt.

across browsers when key products or features are deployed in dominant browsers without following open standards and deployment commitments that would ensure interoperability. This forces users to choose between a sub-par experience or moving to the dominant browser, which the CMA recognises as being harmful for fair competition. We are glad to see the CMA's recognition of the important role played by 'formal standards development organisations and processes' to promote interoperability. Mere recognition, however, will not ensure that companies actually engage in open standards processes. We believe a clear reference to the benefits of independent monitoring along with regular industry inputs would improve this aspect of the final report.

3. Embracing Ex-Ante Regulation

We agree with the CMA that ex-ante regulatory frameworks (of the kind that is intended to be managed by the Digital Markets Unit (DMU)) empower regulators to carry out effective measures to promote competition in concentrated markets. Especially in rapidly developing areas like technology, traditional processes of competition law are too slow. By the time enforcement decisions are made, if at all, the reality is that many promising companies have already been excluded from the market, or they are too hamstrung to compete effectively. However, in light of the delays in bringing DMU legislation to the UK Parliament, we believe the CMA should proceed to take action using its existing enforcement powers because time is of the essence when seeking to re-balance competition online.

4. A Practical Approach to Remedies & Enforcement of Existing Rules

The CMA's practical and nuanced approach to possible remedies, focusing on both opening up greater opportunities to competition (such as opening more features for non-native browsers) and redressing harms where dominance is being exploited (such as restricting indiscriminate intra-company data sharing across products), is a welcome move. We believe that such an approach allows for realistic and proactive remedies to open up competition in mobile ecosystems while ensuring sufficient deterrence for more egregious harms caused by large, integrated offerings of BigTech players. The report's treatment of search defaults, and continued acknowledgement of how they can play a crucial role in enabling innovation for smaller players in the browser ecosystem, is a good example of this practical approach. We believe that the ex-ante regulatory initiatives enacted by the DMU should complement traditional antitrust enforcement, rather than be used as the future panacea which might end up doing too little, too late. Many of the recommended remedies in the report can just as easily be implemented under existing enforcement powers, which the CMA should actively consider prior to issuing the final report.

5. Focus on Consumer Experience

We applaud the CMA's focus on how consumers' interactions with products influences competition. For example, the CMA recognizes not only how people use

their browsers differently across mobile and desktop devices but also the impact that operating system design choices can have on consumer behaviour, often favoring operating system affiliated apps. Understanding and remedying such “dark patterns”, that prevent users from making informed and effective choices, is a crucial aspect of reforming competition enforcement. We look forward to the impact such an understanding will have on developing further thinking on remedies as set out in the report and hope that it will be an insight that the CMA will bear in mind for other studies and enforcement work in the technology sector.

6. Importance of Strategic Market Status (SMS)

When reviewing SMS designations, we hope the CMA/DMU considers not just the impact of Google and Apple individually, but all dominant platforms in the GAFAM group. Some of the practices of this group of companies already meet the DMU consultation’s criteria of being digital activities that exercise substantial and entrenched market power in order to further a strategic position. While not directly within the scope of this study, such activities often impact mobile ecosystems due to the nature of global brands and the increasingly seamless integration of connected products, such as mobile devices, desktop computers, and home devices. This has a material impact on innovation and competition in the sector and SMS status (and the interventions this implies) can go a long way in remedying the harms that occur due to such practices.

Scope for Further Development in the Final Report

While the interim report is certainly encouraging, there are a few key areas where we believe it can be developed to more effectively advance its goal of improving competition in mobile ecosystems. The areas where we think this can take place are -

1. Initiating Independent Enforcement Actions

Despite identifying various practices that are both inhibiting competition as well as leading to the abuse of dominance, the CMA’s interim recommendation focuses on why a market investigation is not necessary at the moment. While we appreciate the CMA’s position concerning the establishment of the DMU, this does not negate the possibility of traditional antitrust measures. Ex-ante regulation should complement, and not replace, traditional antitrust enforcement.

The vast majority of the harms and unfair practices identified by the CMA in the interim report are already taking place. Consumers and developers do not have the luxury to wait for future potential investigation and enforcement action. Small and medium players are being harmed by these practices in the interim, and this is already shaping the marketplace in a manner that further entrenches the dominance of BigTech players. While the CMA does mention that it will retain the ability to carry out individual interventions if the need arises, including making a market

investigation reference at a later point in time, this may occur at too late a point in time.

Given the uncertainty around the timelines of DMU legislation, we think that the CMA should take the opportunity now to carry out independent enforcement action in certain targeted sectors, such as the mobile browser market. If the DMU is established before such an investigation is complete, the CMA could pass on the insights gained to the DMU and let it carry the enforcement action forward. Many of the issues that such an enforcement action could cover are already present in the interim report, making a compelling case for initiating it now under existing enforcement powers rather than waiting until the DMU is ready to exercise its ex-ante mandate.

2. Recognising the Limitation of Choice Screens

The CMA recognises that despite having been publicly implemented for a few years via the EU Android case, choice screens have not led to a tangible change in market share. This equally applies to both browser choice screens (which were only implemented for a few months) and the search screen, which have been in play for a much longer period. Mozilla shares this concern which is why we believe the CMA should consider public research, metrics collection, and other research to explore alternative remedies to prevent further harm to competition.

3. Defending the deprecation Third Parties Cookies (TPCs)

The CMA notes that Google's Privacy Sandbox Proposals (GCPS) might have the effect of reinforcing Google's very strong positions in the supply of ad inventory and ad tech services. We welcome the inclusion of greater transparency, consultation, and restrictions on self-preferencing to help mitigate these concerns. However, the current versions of the Commitments also broaden the scope of the standstill period in a manner that will delay the deprecation of Third Party Cookies (TPCs) and the deployment of other privacy forward technologies.

We believe that the CMA should weigh these privacy equities to enable Chrome to quickly deploy such technologies when they are ready, rather than delay their protections for the average user. Adequately accounting for these concerns in the final version of the report will also help ensure that if the DMU does take over the monitoring of the GCPS Commitments, it will have the necessary substantive basis to ensure that a standstill period does not end up limiting the roll out of privacy preserving practices.

4. Ensuring device identifiers don't compromise consumer privacy while maintaining a level playing field

On Apple's App Tracking Transparency Feature (ATT) feature, we believe that the CMA's focus on striking a balance between competition and data protection concerns in the roll out of such features is a good way forward. As we've stated in the past with

regard to Google's GCPS offerings, the roll out of privacy preserving restrictions should not lead to large platforms being able to leverage their first party data to further entrench their positions in the advertising sector.

However, as the CMA also notes, the capability for ATT to enhance user control over their data by limiting access to device identifiers has clear privacy benefits. Mozilla has advocated for restricting access to unique device identifiers⁵ to an opt-in approach for many years, as we believe that they are a far more dangerous version of cookies that allow for pervasive tracking of a user's practices across apps. The CMA should ensure that the privacy benefits of ATT-like features should be at the front and centre of any attempt to regulate them while accounting for competition concerns. The cooperation between the CMA and UK's Information Commissioner's Office on this front and the acknowledgement in the interim report that the issue still needs further study are both welcome moves which we look forward to engaging with in the coming months.

Recommendations on Establishing the Digital Markets Unit (DMU)

1. We welcome the inclusion of 'consumer welfare' within the DMU mandate.

At Mozilla, we believe that consumers should be empowered to use the software they want. People deserve a variety of products that are personalised to their preferences and localised to their communities. When it comes to software products, people should have the ability to simply and easily try new apps, delete unwanted apps, switch between apps, change app defaults, and expect similar functionality and use.

When consumers don't have this power, or when they are locked-in to Big Tech silos, it often means that markets aren't working properly, and intervention may be required. Similarly, any interventions that regulators make to fix problems in the market are only desirable if consumers ultimately benefit. Some remedies can have unintended consequences, and in practice make it harder for consumers to break free of Big Tech and use the software that they want.

Including 'consumer welfare' within the DMU's mandate would send a clear signal of what market harms the DMU should be looking for, and what it needs to aim at in its interventions.

2. A targeted and decisive approach to 'Strategic Market Status' designation is needed

The DMU rightly aims at tackling structural problems that tilt the balance against independent companies and consumer empowerment. The structural problems owe themselves to the walled gardens and vertically-integrated stacks that have come to

⁵ Apple's anti-tracking plans for iPhone, Mozilla Foundation - <https://foundation.mozilla.org/en/campaigns/apples-anti-tracking-plans-iphone/>

define digital markets in recent years. Most, if not all, of the harms that have motivated the CMA and the UK government to propose the DMU can be traced back to a handful of very large companies. The DMU should take a robust approach to SMS designation. For firms who meet the qualitative and quantitative thresholds, there should be no space to lobby their way out of SMS designation – loopholes or firm-specific carve-outs would undermine the integrity of the whole framework.

3. A principles-based approach ensures flexibility, but needs careful management

Digital markets evolve quickly, as do the behaviours that may undermine competition and consumer empowerment. Each case is different and the ways in which problematic behaviours manifest themselves are constantly evolving.

We therefore see the value in designing the DMU with flexibility and dynamism in mind. For the framework to work for today and tomorrow, it must be able to adapt itself to changing market behaviour. However, we recognise that a principles-based approach can create specific challenges. Flexibility can easily lead to uncertainty, and it will be crucial that the DMU clearly signals to the market the types of behaviours which are likely to contravene the rules and how firms are expected to act. This will help both firms with SMS comply with the rules, but also help independent companies and consumers to understand where their interests might be interfered with.

As an example, competition regulators are increasingly reevaluating their previous approvals of mergers and acquisitions in the technology sector. The harms that accrue to both consumers and other competitors from vertically-integrated data sharing within group companies have become increasingly clear over the past few years. A more flexible legal framework, if available at that time, would have empowered regulators to block such mergers in the interest of consumer experience, innovation and competition. The complementary (and not opposing) relationship between competition and data protection is far better understood now and while structural separation might be the only way to remedy the previous decisions, an ex-ante framework may go a long way in mitigating such outcome in the future.

Relatedly, principles-based rules are only as strong as their enforcement. If the regulator adopts a light-touch approach, the rules can be easily circumvented and loopholes exploited. It is therefore essential that the DMU is well-resourced, and that it has the political support to enforce the rules in a meaningful and consistent manner. In this respect, engagement with independent companies and consumer advocates will be essential. At the same time, a careful balance will need to be sought and we urge caution in adopting processes that may compromise swift implementation.

4. Codes of Conduct Can Help Prevent Negative Outcomes⁶

We agree with the CMA's report that codes of conduct and their accompanying guidance are important to help influence the behaviour of SMS-designated entities, and mitigate market harms before they occur. The CMA's signposting of potential principles for each of the three code objectives is a helpful starting point. This flexibility will allow the principles to be crafted and tweaked in a targeted manner to address the impact of current market dynamics at the time the DMU seeks to finalise those codes.

In particular, the CMA's focus on principles concerning unreasonable/undue restrictions, acting in the consumer's best interests and unreasonably restricting interoperability all closely align with our own recommendations for healthy competition in the browser ecosystem. We do think, however, that the actual guidance under these principles (if the DMU decides to proceed with such an approach) should be crafted with rigorous public consultation and industry inputs, and be subject to regular review to ensure that they remain effective in a rapidly evolving industry landscape. We look forward to engaging with the CMA and DMU to shape the creation of these codes of conduct over the coming years.

⁶ Mozilla also supports the CMA's views on the DMU making use of its proposed powers to impose 'pro-competitive interventions' as a means of introducing more effective competition where codes of conduct are incapable of protecting consumers from adverse effects on competition. Mozilla would be happy to provide further views to the DMU on the substance and scope of such interventions.