

National Telecommunications and Information Administration (NTIA) Request for Comment on Competition in the Mobile Application Ecosystem

Docket No. NTIA-2022-0001

Response of the Coalition for App Fairness

Submitted May 23, 2022

I. Introduction

The National Telecommunications and Information Administration (NTIA), on behalf of the U.S. Department of Commerce, issued a Notice and Request for Comment on competition in the mobile application ecosystem on April 22, 2022.¹ According to the Request for Comment, the data gathered through this process will be used to inform the Biden-Harris Administration’s competition agenda, including, but not limited to, the Department of Commerce’s work developing a report to submit to the Chair of the White House Competition Council regarding the mobile application ecosystem.

Through the Request for Comment, the NTIA stated that it is “looking for concrete and specific information as to what app developers, organizations, and device (i.e., phones; tablets) users experience, and any potential challenges or barriers that limit app distribution or user adoption.” In addition, the NTIA seeks “information on the state of competition, the factors affecting app development and distribution, and active ways to increase competition, through government or private sector action.”

The Coalition for App Fairness (“CAF”) welcomes the opportunity to submit these comments to the NTIA. CAF is an independent non-profit organization, comprising more than seventy members of all sizes, founded to advocate for freedom of choice and fair competition across the app ecosystem.² CAF’s vision is to ensure a level playing field for businesses relying on platforms like the Apple App Store to reach consumers and a consistent standard of conduct across the app ecosystem. In this context, CAF has published ten “App Store Principles,” enshrining a series of rights that should be afforded to every app developer, regardless of their size or the nature of their business.³

¹ Notice and Request for Comment, Developing a Report on Competition in the Mobile App Ecosystem, 87 Fed. Reg. 3415 (Apr. 22, 2022), <https://www.federalregister.gov/documents/2022/04/22/2022-08573/developing-a-report-on-competition-in-the-mobile-app-ecosystem>.

² Coalition for App Fairness, <https://appfairness.org> (last visited May 22, 2022).

³ Coalition for App Fairness, *Our Vision For The Future*, <https://appfairness.org/our-vision/> (last visited May 20, 2022) (attached here as App. A).

As noted in the Request for Comment, on July 9, 2021, President Biden issued an Executive Order on Promoting Competition in the American Economy.⁴ The Order includes a directive to the Secretary of Commerce to conduct a study of the mobile application ecosystem and submit a report to the Chair of the White House Competition Council regarding findings and recommendations for improving competition, reducing barriers to entry, and maximizing user benefit with respect to the ecosystem.⁵

CAF agrees with President Biden that “[t]he American information technology sector has long been an engine of innovation and growth, but today a small number of dominant internet platforms use their power to exclude market entrants, to extract monopoly profits, and to gather intimate personal information that they can exploit for their own advantage.”⁶ Furthermore, we commend the Administration’s attention to this important segment of the digital economy, as well as its support for legislative action to address the threat that dominant platforms present to open markets and competition.⁷

The consensus view that the app ecosystem is broken and new tools are necessary to fix it is reflected in bipartisan legislation currently pending in Congress, including the Open App Markets Act (OAMA).⁸ CAF strongly believes the OAMA is an indispensable measure to level the playing field for app developers who rely on Google and Apple to reach consumers, and ensure a consistent standard of conduct across the app ecosystem.⁹ The American people largely

⁴ Exec. Order No. 14,036, 86 Fed. Reg. 36,987 (July 9, 2021) <https://www.govinfo.gov/content/pkg/FR-2021-07-14/pdf/2021-15069.pdf#page=1>.

⁵ *Id.* at 36,998, § 5(r)(iii).

⁶ *Id.* at 36,987, § 1.

⁷ *See, e.g.*, Letter from Peter D. Hyun, Acting Assistant Attorney General, to Sens. Durbin, Klobuchar, Grassley, and Lee (Mar. 28, 2022) <https://s.wsj.net/public/resources/documents/DOJ%20on%20Tech%20Antitrust%20Bills.pdf>; *Department of Commerce Fiscal Year 2023 Budget Priorities: Hearing on Commerce Department FY 2023 Budget Request Before the S. Comm. on Commerce, Science, and Transportation*, 117th Cong. (2022) (testimony of Dpt. of Commerce Secretary Gina Raimondo in response to Senator Klobuchar’s question about support for the American Innovation and Choice Online Act) <https://subscriber.politicopro.com/transcript/d7151a61-412f-4f24-a4fb-f508c82f8953>; Leah Nylen & Adam Cancryn, *White House backs U.S. tech antitrust bills*, PoliticoPro (Feb. 3, 2022), <https://subscriber.politicopro.com/article/2022/02/whit-house-backs-tech-antitrust-bills-00005513> (referencing White House statement issued a few hours after the Senate Judiciary Committee voted to report the Open App Markets Act out of Committee on a bipartisan basis); Tim Wu (@superwuster), Twitter (Apr. 4, 2022, 10:11 AM), <https://twitter.com/superwuster/status/1510983510844231682> (Special Assistant to the President for Technology and Competition Policy’s tweet in support of Antitrust Day, a call for action in support of the Open App Markets Act and the American Innovation and Choice Act).

⁸ Open App Markets Act, S. 2710, 117th Congress (2021); *see also* American Innovation and Choice Online Act, S. 2992, 117th Congress (2021).

⁹ *See* Coalition for App Fairness, *Open App Markets Act: Advancing a Fair and Competitive App Marketplace*, <https://appfairness.org/advancing-a-fair-and-competitive-app-marketplace/> (last visited May 21, 2022) (attached here as App. B).

support legislative action to rein in the dominant online platforms,¹⁰ as do the vast majority of app developers.¹¹

There is a large body of research and analysis, specific to the app store ecosystem, which was carried out in the U.S. and by government entities in other jurisdictions, that all come to essentially the same conclusion: Apple and Google have gatekeeper power over app distribution on iOS and Android, respectively, which allows them to impose unfair terms and conditions on app developers and engage in other abusive conduct.¹² Many of these jurisdictions have already enacted laws, or are well on their way to doing so, with respect to global digital platforms and their users.¹³ CAF urges NTIA, as the executive branch agency that is principally responsible by law for advising the President on telecommunications and information policy, to advise the U.S. government to take action, rather than continuing to sit on the sidelines while the rest of the world sets the rules of the road for American companies and users that participate in the global digital marketplace.

In this submission, CAF will provide its observations in response to the questions posed by the NTIA in the Request for Comment that are most relevant for its members' activities. In doing so, CAF's response will focus on the app economy, whereby Apple and Google – having

¹⁰ See, e.g., Douglas E. Schoen, *Polling shows both sides of the aisle support reining in Big Tech*, The Hill (May 1, 2022), <https://thehill.com/opinion/technology/3471908-polling-shows-both-sides-of-the-aisle-support-reining-in-b>; Ashley Gold, *Exclusive poll: Americans want government action on tech*, Axios (Dec. 22, 2021), <https://www.axios.com/2021/12/22/regulate-big-tech-support-exclusive-poll>; Leah Nysten, *Poll: Majority of Americans concerned about Big Tech's economic, political power*, Politico (Sept. 17, 2020), <https://www.politico.com/news/2020/09/17/big-tech-economic-political-power-poll-417024>; Consumer Reports, *Platform Perceptions: Consumer Attitudes on Competition and Fairness in Online Platforms* (2020), <https://advocacy.consumerreports.org/wp-content/uploads/2020/09/FINAL-CR-survey-report.platformperceptions-consumer-attitudes-september-2020.pdf>.

¹¹ See, e.g., ClearPath Strategies, *Lowering Barriers: The Open App Markets Act* (Jan. 2022) <https://appfairness.org/wp-content/uploads/2022/01/Developer-Survey-Findings-Jan-2022.pdf> (methodology and survey results attached here as App. C); see also App. D (collection of op-eds and letters to the editor in support of the Open App Markets Act and similar state legislation).

¹² See, e.g., Australian Competition & Consumer Commission, *Digital platform services inquiry: Interim report No. 2 – App marketplaces*, Mar. 2021, <https://www.accc.gov.au/system/files/Digital%20platform%20services%20inquiry%20-%20March%202021%20interim%20report.pdf> [hereinafter ACCC Digital Platform Interim Report No. 2]; Competition & Markets Authority, *Mobile Ecosystems: Market Study Interim Report*, Dec. 14, 2021, <https://www.gov.uk/cma-cases/mobile-ecosystems-market-study#interim-report> [hereinafter CMA Mobile Ecosystems Interim Report]; Staff of Subcomm. on Antitrust, Com., & Admin. L. of the H. Comm. on the Judiciary, 116th Cong., *Investigation of Competition in Digital Markets, Majority Staff Report and Recommendations*, Oct. 2020, https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf [hereinafter House Judiciary Digital Markets Report].

¹³ See, e.g., Hamza Shaban and Cristiano Lima, *U.S. legislators hail South Korea's move to curb Apple and Google's app-store dominance*, The Washington Post (Aug. 31, 2021), <https://www.washingtonpost.com/business/2021/08/31/apple-google-app-store-south-korea/>; Eur. Comm'n, *Questions and Answers: Digital Markets Act: Ensuring fair and open digital markets* (Apr. 23, 2022) (QANDA/20/2349), https://ec.europa.eu/commission/presscorner/detail/en/QANDA_20_2349; Will Hayter, *Digital markets and the new pro-competition regime*, Competition and Markets Authority (May 12, 2022), <https://competitionandmarkets.blog.gov.uk/2022/05/10/digital-markets-and-the-new-pro-competition-regime/> (referring to the forthcoming Digital Markets, Competition and Consumer Bill); see also Rick VanMeter, *Competition Comes to the App Store*, RealClearPolicy (May 10, 2022) https://www.realclearpolicy.com/articles/2022/05/10/competition_comes_to_the_app_store_831388.html.

an effective duopoly over mobile ecosystems and controlling the iOS and Android operating systems and the App Store and Play Store, respectively – are able to dictate the rules of the game, harming app developers and their users.

Based on CAF’s experience, including communications with its own members, we believe it is vital that the NTIA recognize the very real fear of economic retaliation that many businesses, of all sizes, have when it comes to Apple and Google.¹⁴ For this reason, the NTIA should expect that many market participants who are gravely concerned with the gatekeeper platforms’ conduct in this space will nonetheless choose not to respond to the Request out of fear. CAF is in a unique position to fight for developers who are understandably afraid to speak as individuals, on their own behalf. As such, a simple tally of comments in support of, versus criticizing, Apple and Google’s conduct would be highly misleading.

II. Overview of the App Store Ecosystem

The vast majority of smartphone users in the United States purchase devices that run on Apple (iOS) or Android (Google) operating systems, with nearly 60% of U.S. smartphone users operating an iOS-run device and about 40% operating an Android-run device in 2021.¹⁵ Apple keeps iOS proprietary (i.e., it can only be run on Apple hardware), while Google licenses the Android operating system to smartphone manufacturers like Samsung or Motorola.

Apple and Google control the sale of third-party apps on these devices through their “app stores” – the Apple App Store and the Google Play Store, respectively. Very few consumers own both Android and iOS devices; this is, in part, because users incur high costs to switch from one ecosystem to the other. These switching costs include: the cost of buying a new smartphone and peripheral hardware, the challenge of learning a different operating system, the time to transfer data, and the costs of obtaining new apps because iOS apps do not work on Android, and vice versa. Consistent with this, only about 2% of iPhone users switch to Android each year.¹⁶

It is important to consider Apple’s App Store within the context of the company’s broader business model. Apple is one of the most profitable companies in the world. As of April

¹⁴ The House Judiciary Digital Markets Report described this fear of retaliation as follows: “Unfortunately, some market participants did not respond to substantive inquiries due to fear of economic retaliation. These market participants explained that their business and livelihoods rely on one or more of the digital platforms. One response stated, ‘Unfortunately, [the CEO] is not able to be more public at this time out of concern for retribution to his business,’ adding, ‘I am pretty certain we are not the only ones that are afraid of going public.’” Another business that ultimately declined to participate in the investigation expressed similar concerns, stating, ‘We really appreciate you reaching out to us and are certainly considering going on the record with our story. . . . Given how powerful Google is and their past actions, we are also quite frankly worried about retaliation.’” House Judiciary Digital Markets Report, *supra* note 12, at 27.

¹⁵ StatCounter Global Stats, Mobile Operating System Market Share Worldwide: Apr. 2021 – Apr. 2022 <https://gs.statcounter.com/os-market-share/mobile/worldwide>.

¹⁶ *Epic Games, Inc. v. Apple Inc.*, No. 20-cv-05640, Rule 52 Order After Trial on the Merits, at 52 (N.D. Cal. Sept. 10, 2021), <https://cand.uscourts.gov/wp-content/uploads/cases-of-interest/epic-games-v-apple/Epic-v.-Apple-20-cv-05640-YGR-Dkt-812-Order.pdf>.

2022, Apple hit record annual sales of \$378.7 billion, profits of \$100.6 billion, and a market capitalization of \$2.6 trillion.¹⁷ Apple initially built its reputation on the sale of iconic products, such as the iPhone, the iPad, or the Apple Mac. However, as growth in sales of hardware devices slowed, Apple leveraged its position, and it is now capitalizing on its iOS mobile ecosystem as an important source of revenue. For instance, in 2020, developers generated \$72.3 billion in revenue through their apps distributed on the App Store, out of which Apple typically kept a 30% cut (reduced to 15% in some circumstances).¹⁸ In a competitive market, Apple's inflated fees would dissipate, but for app developers the App Store represents the only way to distribute their apps to iOS users. While Apple is subject to competition from Android device makers at the product level, once users have acquired an iPhone, the App Store is the only conduit between users and app developers. It is this situation that gives Apple its gatekeeper power.

Similarly, Google Play should be viewed within the context of Google's broader business model. Google (Alphabet) is also one of the most profitable companies in the world with annual sales of \$257.5 billion, profits of \$76.03 billion, and a market capitalization of \$1.6 trillion as of April 22, 2022.¹⁹ Since capturing the market for online search, Google has expanded into adjacent markets. Google acquired the Android mobile operating system in 2005 and has consistently promised that it would be the basis for an "open" ecosystem.²⁰ The Google Play Store is the default and dominant app store on Android devices. Although Google does, technically, permit users to install alternative app stores, it imposes restrictions and actively discourages consumers from downloading apps outside of the Google Play Store with warnings and other obstacles.

In 2020, developers generated \$38.6 billion in revenue through their apps distributed on the Google Play Store.²¹ Google previously kept up to a 30% cut of revenue from developers, but, under intense regulatory and public scrutiny, it agreed to lower its commission to 15% in certain circumstances.²² While this represents an improvement, this does not change the fact that Google's control over Android and the Google Play Store allows it to impose terms and conditions on developers that it would not otherwise be able to extract in a competitive market. While Google is subject to competition from Apple at the product level, once users have acquired an Android device, the Play Store is still the only practicable conduit between users and app developers. It is this situation that gives Google its gatekeeper power.

¹⁷ Andrea Murphy & Isabel Contreras, *2022: The Global 2000*, Forbes (May 12, 2022), <https://www.forbes.com/lists/global2000/?sh=400ed5a55ac0>.

¹⁸ Stephanie Chan, *U.S. iPhone Users Spent An Average of \$138 on Apps in 2020, 38% More Than the Year Before*, Sensor Tower: Store Intelligence, <https://sensortower.com/blog/revenue-per-iphone-2020>.

¹⁹ Murphy & Contreras, *supra* note 17.

²⁰ See, e.g., Andy Rubin's Email to Android Partners, The Wall Street Journal, Mar. 13, 2013, <https://www.wsj.com/articles/BL-DGB-26394>.

²¹ Chan, *supra* note 18.

²² Daisuke Wakabayashi, *Google plans to lower the cut it takes in its app store to 15 percent*, N.Y. Times (Oct. 21, 2021), <https://www.nytimes.com/2021/10/21/technology/google-app-store-developer-fees.html>.

In sum, Apple and Google have significant (if not absolute) market power in their respective mobile ecosystems: they control the supply of the two main mobile operating systems (iOS and Android, respectively), as well as mobile app distribution (through their operation of the App Store and the Play Store). Competition within and between Apple's and Google's mobile ecosystems is extremely limited.²³ As a result, Apple and Google act as digital gatekeepers for businesses trying to reach American consumers. This gatekeeper role allows the platforms to control businesses' access to end consumers, giving the platforms substantial power over businesses, as well as end users.

III. Anticompetitive Conduct and Resulting Harms

While app marketplaces allow consumers to have access in a centralized manner to a variety of apps, the way Apple and Google operate their app stores – not least because of the gatekeeper role they have on mobile app distribution – has led to significant harms to competition with particularly negative effects for American businesses and consumers.

The harms arising from Apple's and Google's conduct in relation to their app stores (and operating systems) are well-documented by competition authorities around the world, researchers, and think tanks. Specific to the U.S, the House Judiciary Committee's bipartisan Digital Markets Investigation and key U.S. House and Senate hearings provide ample documentation as well. Thus, in this submission, CAF will not go into detail in explaining such harms, instead providing an overview.

The harms can be categorized broadly as follows: (1) harms arising from the imposition of unfair and abusive terms on app developers; (2) harms arising from the collection and use of commercially sensitive information; (3) harms arising from the erratic app review process; (4) harms arising from Apple's and Google's self-preferencing practices; (5) harms arising from the limitations placed on access to technology and functionalities; and (6) harms arising from user lock-in to a single app store and the effective elimination of app store competition and consumer choice. Notably, as detailed below, consumers suffer immensely from all of these harms.

A. Harms Arising from the Imposition of Unfair and Abusive Terms on App Developers

The gatekeeper role Apple and Google have over app distribution allows them to unilaterally set, modify, interpret, and enforce the terms and conditions that app developers must accept as a condition of reaching their user base. App developers have no other choice but to accept Apple's and Google's terms, no matter how unfair or harmful they may be – or else they will lose access to their mobile user base. In this section, we refer to the harms arising from (i)

²³ Recent studies of the app store ecosystem have reached the same or a similar conclusion. *See, e.g.*, CMA Mobile Ecosystems Interim Report, *supra* note 12, at 63; *see also* ACCC Digital Platform Interim Report No. 2, *supra* note 12, at 5.

the mandatory use of Apple’s proprietary in-app payment system, In-App Purchase (“IAP”), and (ii) the anti-steering rules Apple imposes on app developers whose apps offer “digital” goods or services. As stated above, while CAF focuses on Apple, the following observations would also apply to Google, to the extent that its practices are similar to those of Apple.²⁴

1. Mandatory Use of IAP

For app developers whose apps are deemed to offer “digital” goods or services (with Apple being the sole arbiter of deciding when this is the case),²⁵ Apple has tied access to the App Store to the use of IAP. The obligation to exclusively use IAP results in a variety of harms to competition and consumers.

a. App developers cannot choose the payment processor of their choice.

App developers, whose apps sell “digital” goods or services, are prohibited from choosing an alternative service provider to process in-app payments, having to use the “one-size-fits-all” IAP. Users are ultimately the losers, as app developers cannot offer flexible payment options and features valued by users (e.g., carrier billing, subscriptions with different billing cycles, targeted discounts, ability to pay in installments). In addition, the obligation to use IAP limits competition among and innovation from payment service providers, which would otherwise have a strong incentive to innovate in payment solutions specifically designed for in-app payments.²⁶

²⁴ While Google had historically been more lenient about the use of its proprietary in-app payment system, Google Play’s billing system (“GPB”), in September 2020, Google announced that all developers selling digital goods or services in their apps will be required to exclusively use GPB by September 30, 2021. Google later announced that app developers could apply for an extension to the deadline for compliance with the GPB obligation until March 31, 2022. See Sameer Samat, *Listening to Developer Feedback to Improve Google Play*, Android Developers Blog (Sept. 28, 2020), <https://android-developers.googleblog.com/2020/09/listening-to-developer-feedback-to.html>; Purnima Kochikar, *Allowing developers to apply for more time to comply with Play Payments Policy*, Android Developers Blog, (July 16, 2021), <https://androiddevelopers.googleblog.com/2021/07/apply-more-time-play-payments-policy.html>.

²⁵ Apple has discretion in deciding whether an app enables the purchase of “digital” goods or services and should thus use IAP or whether it enables the purchase of “physical” goods or services and thus should not use IAP. The distinction it draws is not always objective or logically founded, and it is difficult to understand why it considers some services as being consumed “within the app” while similar services are considered to be consumed “outside of the app.” Note that within the category of apps deemed to offer “digital” goods or services, Apple has made over the years various exceptions to the obligation to use IAP (some of which were applied ad hoc, without being included in the App Store Review Guidelines).

²⁶ For additional detail regarding the harmful effects of the mandatory use of IAP on innovation, see Damien Geradin, *How Apple’s App Store practices are stifling innovation*, Coalition for App Fairness, May 2021, at 3, <https://appfairness.org/wpcontent/uploads/2021/05/caf-stifling-innovation.pdf> (attached here as App. E).

b. App developers are disintermediated from their users.

When IAP is used, Apple confiscates the customer relationship and forcibly interposes itself between the app developer and its users.²⁷ The app developer cannot provide customer support on crucial billing issues such as cancellations and refunds, which must be handled by Apple. This artificial separation between the provision of the service (which is the app developer's responsibility) and the provision of customer care services (which are handled by Apple) leads to unnecessary frictions in customer service processes (e.g., the handling of cancellations of subscriptions or refund requests). Not only are users harmed (as they are confronted with a chaotic, inefficient, and sub-par customer service), but also app developers' reputations are harmed, as consumers inevitably associate the poor user experience they receive with the developer's brand.²⁸

In addition, through the use of IAP, Apple obtains access to commercially sensitive information about subscribers of third-party app developers (e.g., the user's full name, email, age, IP address, location, as well as credit card details and billing information), which it does not share with the app developer providing the service.²⁹ Consequently, app developers are deprived of access to valuable user data, which they could use to improve their services, personalize their offering and protect their users (e.g., from fraud) – while Apple collects unparalleled market intelligence.³⁰

c. IAP raises the costs of app developers offering “digital” goods or services.

For transactions made through IAP, app developers have to pay (up to) a 30% commission on the transaction value. In fact, the (up to) 30% commission does not reflect the value of the App Store; it is a supra-competitive commission that can only be imposed by Apple because of the market power it has over app distribution. In this regard, after an exhaustive trial on the merits in Epic Games' suit against Apple, U.S. District Court Judge Gonzalez Rogers concluded that Apple set its commission at 30% in an arbitrary manner, without regard to

²⁷ For additional detail on how Apple disintermediates app developers from their users when IAP is used, as well as the harmful effects of this, see Damien Geradin, *Apple's In-App Purchase (“IAP”) as a disintermediation tool*, Coalition for App Fairness, May 2021, at 3, <https://appfairness.org/wp-content/uploads/2021/05/CAF-IAP-as-DisintermediationTool.pdf> (attached here as App. F).

²⁸ See *id.* at 3-5.

²⁹ Apple only shares limited information with app developers: when a transaction is made through IAP, the app developer receives a real-time notification that a purchase has been made for a specific product offered by the app developer. While the notification provides information about the purchased product, it does not contain information that would enable the app developer to identify the user with certainty, or information such as the amount paid or the currency used. *Id.* at 2.

³⁰ *Id.* at 3.

operational costs or benefits for users or developers.³¹ Judge Gonzalez Rogers further determined that the amount of the (up to) 30% commission bears no relationship to the costs of running the App Store or the value offered to app developers; rather, it was a historic gamble that allowed Apple to reap supra-competitive margins.³²

Apple's own apps do not incur such charges – nor do app developers whose apps are deemed to offer “physical” goods or services, which are not subject to the IAP obligation. The commission is therefore structured in an unfair and discriminatory manner.³³ The commission eats into the margins of app developers and raises the costs for Apple's rival apps, thus distorting downstream competition. In the long term, this can have significant negative effects for consumers, either because downstream markets are foreclosed or because app developers have a reduced ability and less incentive to invest in their apps or develop new, innovative apps, having handed a significant part of their (potential) income to Apple.³⁴

d. IAP raises switching costs and contributes to consumer lock-in.

The mandatory use of IAP increases switching costs, making it harder for users to switch to an Android device. Apple does not allow app developers to require that users link their account with their Apple ID, meaning that users who have purchased a subscription through IAP are not able to access their purchased content after switching to an Android device (instead having to repurchase or re-subscribe). Even if users can access purchased content, they cannot manage (e.g., cancel) pre-existing subscriptions after switching to a device with a different operating system. Therefore, users have to cancel their subscriptions before switching, which may be problematic for consumers who may have multiple subscriptions with different billing cycles.

In fact, Apple has long perceived the mandatory use of IAP as a way to lock customers in its ecosystem: internal emails uncovered in the context of the Apple eBook litigation in the United States confirm that, in 2010, when Apple executives became aware of an Amazon Kindle ad on TV showing that it was easy for users to switch from iPhone to Android, Steve Jobs suggested that “[t]he first step might be to say [Amazon] must use our payment system for everything.”³⁵

³¹ *Epic Games, Inc. v. Apple Inc.*, No. 20-cv-05640, Rule 52 Order After Trial on the Merits, at 144 (N.D. Cal. Sept. 10, 2021), <https://cand.uscourts.gov/wp-content/uploads/cases-of-interest/epic-games-v-apple/Epic-v.-Apple-20-cv-05640-YGR-Dkt-812-Order.pdf>.

³² *Id.* at 92, 163.

³³ On this point, *see also* Adi Robertson, *Tim Cook faces harsh questions about the App Store from judge in Fortnite trial*, The Verge (May 21, 2021) <https://www.theverge.com/2021/5/21/22448023/epicapple-fortnite-antitrust-lawsuit-judge-tim-cook-app-store-questions>.

³⁴ For additional discussion on how the IAP commission may stifle innovation, *see* Geradin, *supra* note 26, at 2.

³⁵ Production of Apple to H. Comm. on the Judiciary, HJC-APPLE-014701 (Nov. 22, 2010), available at <https://judiciary.house.gov/uploadedfiles/014701.pdf>.

2. Anti-Steering Rules

Apple prevents app developers whose apps offer “digital” goods or services from directly communicating with their users about purchasing channels other than IAP.³⁶ The anti-steering rules aim at reinforcing the obligation to use IAP and safeguarding the related commission. The scope of Apple’s anti-steering rules has changed over time: at first, it was ever-expanding, but recently it has been narrowed, most likely due to growing regulatory pressure and scrutiny. The interpretation by Apple has also often been unpredictable.

Apple’s anti-steering rules harm users, as they limit their ability to make informed choices between the various purchasing channels, missing out on (often cheaper) out-of-app alternatives. Because Apple’s primary concern is to extract fees for the use of its IAP, consumers are denied information as well as an optimal experience. The anti-steering rules also harm app developers, who live in fear that Apple may suddenly change the wording or interpret them in a novel manner and reject an update of their app or remove it from the App Store.

B. Harms Arising from the Collection and Use of Commercially Sensitive Information

Because of its position as the operator of the App Store (the only app distribution channel available on iOS) and as the provider of the iOS operating system, Apple has access to a variety of commercially sensitive information. In fact, Apple has contractually built a framework whereby, on the basis of the Apple Developer Program License Agreement (which all app developers must sign in order to distribute their apps through the App Store) and the MFi program (which companies, including developers, that want their hardware accessories to connect electronically to Apple devices must sign),³⁷ Apple can obtain and use sensitive information collected from app developers.³⁸

In addition, Apple obtains sensitive commercial data from all apps obliged to use IAP, such as their customer lists, the purchasing activity of individual users and the success of subscriptions. Apple gains market intelligence, which it can use to scan the horizon and identify app categories with revenue growth opportunities. Apple can then swiftly develop its own apps and enter the services market, competing with app developers whose data played an instrumental role in Apple’s ability to do so. While Apple may claim that its app development team does not

³⁶ Apple, *App Store Review Guidelines*, Article 3.1.1, <https://developer.apple.com/app-store/review/guidelines/#payments> (last updated Mar. 30, 2022).

³⁷ CAF member Masimo has explained that many companies have essentially no choice but to sign the MFi Agreement because “[f]or companies whose devices need to rely on the Apple ecosystem to reach users, a refusal to sign the MFi Agreement entails severe consequences.” Masimo, *Observations of Masimo on the Statement of Scope of the CMA’s Mobile Ecosystems Market Study* at 4, <https://assets.publishing.service.gov.uk/media/617aa5f48fa8f52986e61df1/Masimo.pdf> (attached here as App. G).

³⁸ See, e.g., ACCC Digital Platform Interim Report No. 2, *supra* note 12, at 141.

have access to data collected from other lines of business, former Apple executive Philip Shoemaker has explained that Apple executives would frequently use insights based on App Store data to inform product development.³⁹

CAF members Tile and Masimo have explained that Apple mandates that developers share commercially sensitive information, which Apple uses to develop competing products.⁴⁰ Masimo and Tile both make products that are compatible with Apple devices and also iOS apps to interact with those products, and as such have had no other choice but to agree to Apple’s MFi agreement. Both of these companies expressed serious concerns with the non-negotiable and one-sided nature of Apple’s MFi agreement. The agreement includes terms that permit Apple to (i) use any information submitted by licensees to develop its own competing products; and (ii) terminate the agreement if the licensee brings intellectual property or patent infringement proceedings against Apple.⁴¹ This means that if a licensee seeks to enforce its statutory rights in court, Apple will retaliate by unilaterally ending the MFi agreement, effectively, forcing the licensee to stop selling any products that incorporate Apple-licensed technology.

Tile’s experience with Apple provides an instructive example of the harms to competition that arise from Apple’s collection and use of commercially sensitive information.⁴² For many years, Apple and Tile had a highly collaborative relationship. That relationship soured, however, when Apple copied Tile’s “finding network,” by launching the “Find My Network,” in 2019, and Tile’s hardware, by launching the “AirTag” in 2021. Prior to Apple’s launch of these competing products, Apple had access to a trove of sensitive information on Tile’s products, through the App Store, as well as from previous partnerships such as a collaboration between Apple and Tile on a Siri voice assistant integration for Tile.⁴³

As General Counsel for Tile Kirsten Daru testified at a Senate Judiciary hearing last year, “Apple owns and controls the entire commercial iOS ecosystem. They own the hardware, the

³⁹ Reed Albergotti, *How Apple uses its App Store to copy the best ideas*, The Washington Post, Sept. 5, 2019, <https://www.washingtonpost.com/technology/2019/09/05/how-apple-usesits-app-store-copy-best-ideas/>.

⁴⁰ See, e.g., Tile, Observations of Tile on the Statement of Scope of the CMA’s Mobile Ecosystems Market Study at 4, https://assets.publishing.service.gov.uk/media/61a8a6ae8fa8f503780c1c8b/Tile_Inc_.pdf (explaining how “Apple can – and does – use [commercially-sensitive] information to develop its own competing products, services or features, which, when launched, will automatically gain huge scale”) (attached here as App. H); Masimo, *supra* note 37, at 4 (“Apple uses its control over the various components of its ecosystem to adopt policies and/or engage in conduct that harms other companies by taking advantage of their innovations (e.g., by obtaining and freely using commercially-sensitive information of third parties), consequently depriving consumers of valuable, innovative products.”).

⁴¹ For additional discussion of the MFi agreement, see CMA Mobile Ecosystems Interim Report, *supra* note 12, §§ 6.125-26, § 6.133, and Table 8.1.

⁴² Tile, *supra* note 40, at 2.

⁴³ *Id.*

operating system, the retail stores and the app store marketplace.”⁴⁴ She continued, “This gives Apple access to competitively sensitive information, including identity of our iOS customers, subscription take rate, retail margins and more. And Apple’s control over the ecosystem generally enables it to identify any successful app category and take it over by manipulating the ecosystem to give itself a sharp competitive edge.”⁴⁵

Apple is not alone in its desire to access its current or future competitors’ commercially sensitive data. But its gatekeeper power over developers means that many developers have no choice but to grant Apple access to their data, which they never would agree to in an otherwise competitive marketplace. This fact is critical to understanding why conduct by a dominant platform – as compared to similar conduct by a market participant that lacks gatekeeper power – has a markedly different impact and is, therefore, deserving of different treatment under the law.

The fear of Apple using commercially sensitive information about third-party apps, services and/or products for its own purposes, reduces the incentives of app developers to innovate, since they know that if they are successful, Apple may appropriate their intellectual property and then target them through exclusionary practices.

C. Harms Arising from the Erratic App Review Process

In order for an app (and each subsequent update of the app) to be available on the App Store, it must first be approved by Apple during the app review process. The app review process (during which Apple assesses compliance of the app or update with its unilaterally imposed App Store Review Guidelines),⁴⁶ affords Apple unique power over app developers wishing to reach mobile users. Furthermore, Apple has unfettered discretion in interpreting and applying its rules and carrying out the app review process. As Apple’s App Store Review Guidelines put it: “We will reject apps for any content or behavior that we believe is over the line. What line, you ask? Well, as a Supreme Court Justice once said, ‘I’ll know it when I see it.’ And we think that you will also know it when you cross it.”⁴⁷

Apple is the judge, jury, and executioner, meaning that it has the ability to apply its rules in an arbitrary and capricious manner. App developers cannot know in advance how Apple will interpret the rules each time, having to operate their business in uncertainty. At the same time, Apple often only provides cryptic feedback to app developers about the reasons for the rejection

⁴⁴ *Antitrust Applied: Examining Competition in App Stores: Hearing Before the S. Comm. on the Judiciary Subcomm. on Competition Policy, Antitrust, and Consumer Rights*, 117th Cong. (Apr. 21, 2021), statement of Kristen Daru, General Counsel and Chief Privacy Officer, Tile, Inc., <https://www.judiciary.senate.gov/imo/media/doc/04.21.21%20Kirsten%20Daru%20Senate%20Judiciary%20Testimony%20Final.pdf>.

⁴⁵ *Id.*

⁴⁶ See Apple, *App Store Review Guidelines*, <https://developer.apple.com/app-store/review/guidelines/> (last updated Mar. 30, 2022).

⁴⁷ *Id.*

of their apps or updates, leaving them wondering what they need to do for their apps to be compliant with Apple's rules.

CAF's members have suffered harm to their businesses due to Apple's capricious and inconsistent application of its rules. For example, as CAF explained in one of its fact sheets, Apple suddenly changed its approach towards screen time and parental control apps, removing or restricting leading apps from the App Store, once it announced the launch of "Screen Time," a feature that would help people limit the time they and their children spend on the iPhone.⁴⁸ This unilateral action exposed millions of children and undermined millions of parents. FlickType faced a similar issue when Apple unexpectedly rejected an update of its app, even though previous versions of it were approved, and so were other apps offering a similar service. Following the launch of its HEY email app, Basecamp also experienced harm to its business as a result of Apple's arbitrary and unpredictable app review process.⁴⁹

Former Apple executives have acknowledged that Apple applies its rules in an arbitrary and inconsistent manner, as explained in the report of the U.S. House Judiciary Antitrust Subcommittee: "Mr. Shoemaker responded that Apple 'was not being honest' when it claims it treats every developer the same. Mr. Shoemaker has also written that the App Store rules were often 'arbitrary' and 'arguable,' and that 'Apple has struggled with using the App Store as a weapon against competitors.'"⁵⁰

The arbitrary application of rules without adequate explanation causes considerable uncertainty, costs, and delays for app developers. Ultimately, it is consumers who suffer, as app developers are delayed in rolling out new features that improve the quality and security of their services or are even discouraged from innovating in the first place.⁵¹

Worse, app developers who disagree with Apple's decisions have no effective redress. In practice, the only recourse they have is to file an appeal before the App Review Board. Even in this case, however, it is Apple employees (typically just more experienced reviewers) who will

⁴⁸ Geradin, *supra* note 26, at 4-5.

⁴⁹ See David Pierce, *A new email startup says Apple's shaking it down for a cut of its subscriptions*, Protocol, (June 16, 2020) <https://www.protocol.com/hey-email-app-store-rejection>.

⁵⁰ House Judiciary Digital Markets Report, *supra* note 12, at 371.

⁵¹ See generally Geradin, *supra* note 26, at 5.

decide the final outcome and, as will be explained further below, the appeal process in itself also lacks transparency.⁵²

D. Harms Arising from Apple’s and Google’s Self-Preferencing Practices

Apple is vertically integrated, meaning that it does not only control the iOS operating system and the App Store, but it also competes downstream with app developers that make their apps available through the App Store. It is well-established that vertical integration may create conflicts of interest where a vertically integrated firm has both the ability and incentive to advantage its own businesses over those of its customers, who may also be its rivals.⁵³ Apple is therefore in a position to engage in anticompetitive self-preferencing in favor of its own apps over rival third-party apps, preventing competition on the merits and harming third-party app developers which are reliant on the App Store to reach their user base.

For example, Apple can (and does) provide greater discoverability to its own apps in its App Store, implement and enforce favorable default settings, and block or limit third-party access to device functionality.⁵⁴ Among the app developers that have felt the impact of Apple’s self-preferencing practices are those offering digital well-being and parental control apps. For instance, Apple restricts parental control app developers from accessing the full suite of controls

⁵² See Apple, *App Store Review Guidelines*, After You Submit, <https://developer.apple.com/app-store/review/guidelines/#after-you-submit> (last updated Mar. 30, 2022) (“Rejections: Our goal is to apply these guidelines fairly and consistently, but nobody’s perfect. If your app has been rejected and you have questions or would like to provide additional information, please use App Store Connect to communicate directly with the App Review team. This may help get your app on the store, and it can help us improve the App Review process or identify a need for clarity in our policies. If you still disagree with the outcome, or would like to suggest a change to the guideline itself, please submit an appeal”); Apple, *App Review*, <https://developer.apple.com/app-store/review/> (last visited May 21, 2022).

⁵³ See, e.g., House Judiciary Digital Markets Report, *supra* note 12, at 398 (“The Subcommittee’s investigation uncovered several instances in which a dominant platform used the design of its platform or service to privilege its own services or to disfavor competitors.”); CMA Mobile Ecosystems Interim Report, § 6 (“Apple’s and Google’s control over their respective mobile ecosystems allows them to set the ‘rules of the game’ for app developers who seek to use their app stores. We have found that in many cases, Apple and Google have the ability and incentive to provide their own apps with a competitive advantage”); see also U.S. Dep’t of Justice & Fed. Trade Comm’n, Joint Vertical Merger Guidelines, June 30, 2020, § 4(a), https://www.ftc.gov/system/files/documents/reports/us-department-justice-federal-trade-commission-vertical-merger-guidelines/vertical_merger_guidelines_6-30-20.pdf (“[A] [vertical] merger may increase the vertically integrated firm’s incentive or ability to raise its rivals’ costs by increasing the price or lowering the quality of the related product. The merged firm could also refuse to supply rivals with the related products altogether.”).

⁵⁴ Recent studies of the app store ecosystem have reached the same or a similar conclusion. See, e.g., ACCC Digital Platform Interim Report No. 2, *supra* note 12, at 40.

available within its operating system and app marketplace, hindering parents' efforts to monitor and protect their children and putting children's well-being at risk.⁵⁵

In addition, Apple has the ability to design privacy permissions in a way that disadvantage third-party apps, while not affecting its own apps. For example, following a change to its operating system, Apple made it difficult for third-party apps to ask for and obtain users' permission to track their location when the app is not being used (functionality that is necessary for the operation of certain apps).⁵⁶ When it comes to its own products and services, however, Apple tracks, by default, users' location at all times and users cannot opt out unless they go deep into Apple's settings.⁵⁷

This type of conduct undermines the ability of app developers to compete, innovate and address issues of concern to consumers.

E. Harms Arising from Limitations Placed on Access to Technology and Functionalities

Apple has used its control over iOS to delay or deny access to certain functionality for third-party apps. For instance, Apple limits access to the ultra-wideband short-range proximity tracking and data transfer technology present in iPhones, which may reduce future innovation and limit the future products made available to consumers.⁵⁸ By delaying or restricting third-party access to useful hardware or software features, such as APIs or chips (like the near-field communication ("NFC") chip or the ultra-wideband ("UWB") chip), Apple can give itself a competitive advantage over rivals, harming competition and restricting consumer choice.⁵⁹

In another example of this type of conduct, Apple limits access to features within its Mobile Device Management ("MDM") technology, a technology which allows the remote control and configuration of devices. For example, with MDM, an app developer can push settings to a device that apply content filters, determine what features and apps can be accessed,

⁵⁵ Apple has also made other deliberate choices that have harmed app developers offering parental control apps, while protecting its own ecosystem. For example, Apple allows children over 13 years of age to remove parental controls without parental notice or intervention. In addition, in 2020 with the launch of iOS 14, Apple introduced a Private MAC functionality that blinded school filtering and home parental control tools, affecting the safety of millions of children globally.

⁵⁶ See, e.g., Daru, *supra* note 44, at 5-6; Patience Haggen, "iPhone Update Reminds Users – Again and Again – of Being Tracked." Wall Street Journal, Dec. 31, 2019, <https://www.wsj.com/articles/iphone-update-reminds-users-again-and-again-of-being-tracked-11577799336>.

⁵⁷ See, e.g., Reed Albergotti, *Apple Says Recent Changes to Operating System Improve User Privacy, But Some Lawmakers See Them As An Effort To Edge Out Its Rivals*, The Washington Post, Nov. 26, 2019, <https://www.washingtonpost.com/technology/2019/11/26/apple-emphasizes-user-privacy-lawmakers-see-it-an-effort-edge-out-its-rivals/>.

⁵⁸ For more on this point, see ACCC Digital Platform Interim Report No. 2, *supra* note 12, at 59.

⁵⁹ See, e.g., Daru, *supra* note 44, at 6.

and limit access to networks and VPNs. On the Apple platform, the full suite of MDM features is available through a configuration called “Supervision.” Apple does not allow consumer app developers to access Supervision. As a result, consumer app developers are not able to access measures such as (i) ensuring that the end user cannot remove or subvert the MDM settings, (ii) restricting end users from accessing risky messaging services such as iMessage and explicit iTunes content, or (iii) restricting end users from accessing risky device features such as the camera or screen capture. This undermines the ability of consumer app developers to compete and innovate, harming children as a result.

F. Harms Arising from User Lock-In to a Single App Store and the Effective Elimination of App Store Competition

As explained at the outset of CAF’s comments, Apple and Google have parallel monopolies: the App Store is the only channel through which app developers can distribute their apps to iOS users and iOS users can download apps on their devices; and the Google Play Store is, practically speaking, the only channel through which app developers can distribute their apps to Android users and Android users can download apps on their devices. This situation is not an accident. Apple and Google have devoted significant resources and attention to eliminating competition from third-party app stores. Importantly, the elimination of competition does not result in greater protections for consumers – as Apple and Google claim; rather, it primarily serves to stifle innovation and deprive users and consumers of the numerous benefits that healthy competition undoubtedly brings.

By eliminating competition, Google and Apple have destroyed the incentives for both the dominant platforms, as well as third parties, to truly invest in privacy, security, and safety—particularly, when it comes to app store review and curation. As a result, the App Store is rife with scams and fraud. *The Washington Post* uncovered significant evidence of this in an article titled, “Apple’s tightly controlled App Store is teeming with scams.”⁶⁰ According to the report, “Nearly 2 percent of Apple’s top-grossing apps on one day were scams — and they have cost people \$48 million.”⁶¹

Recently, former Secretary of Homeland Security Tom Ridge, joined by a renowned group of cybersecurity experts, security professionals, and former government officials and advisers, explained how competition would enhance security for users, in a letter to Congress: “Enacting policies to provide developers and consumers greater freedom and choice will neither reduce security on mobile devices nor increase harm to users. In fact, we believe that

⁶⁰ Reed Albergotti & Chris Alcantara, *Apple’s tightly controlled App Store is teeming with scams*, *The Washington Post*, June 6, 2021, <https://www.washingtonpost.com/technology/2021/06/06/apple-app-store-scams-fraud/>.

⁶¹ *Id.*

competition and accountability will incentivize platforms, payment processors, and app developers to better prioritize security.”⁶²

Ultimately, in the absence of competition, consumers lose because there is little to no incentive for Apple, Google, and third-party app stores to make investments that would result in better products and increase consumer security.

IV. Legislative Action such as the Open App Markets Act Will Promote a More Competitive and Innovative Mobile App Ecosystem

CAF looks forward to the NTIA’s forthcoming report as a valuable addition to the extensive body of research and analysis that already exists regarding the app store ecosystem, the ways in which it is broken, and policy recommendations to fix it. It is imperative, however, that this ongoing work is not used as an excuse for inaction.

To that end, the Request for Comment requests that commenters identify specific measures that the federal government might take to foster healthy competition—especially for nascent app innovation—in the mobile app ecosystem. The Open App Markets Act (OAMA) is one such solution. OAMA would fix a broken app marketplace by barring app stores from requiring apps to use their in-app payment systems, through which they charge exorbitant fees and block communications between developers and their own customers. It would also strengthen consumer freedom by allowing people to choose and install the app store and default apps that make the most sense for them, and easily delete pre-installed apps that they do not want to use. Additionally, the legislation prohibits anticompetitive practices, including “self-preferencing,” by banning app stores from engaging in behaviors that put their products at an advantage over independent developers and competitors. Finally, one of OAMA’s critical provisions would prohibit covered companies from using non-public business information derived from a third-party app for the purpose of competing with that app. A well-respected group of cybersecurity experts and security professionals recently endorsed this legislation, explaining, “Given the evidence, it is clear that not only would this legislation advance competition and choice in the digital marketplace, but it would improve security for consumers.”⁶³

Among other benefits, a key advantage of a legislative approach like the OAMA is that the rules will be clear: once the law is in place, the platforms falling under its scope will have to comply with a predefined list of prohibited conduct, adding certainty and predictability for all market participants, including the digital platforms.

⁶² Letter from Ridge Policy Group to U.S. Congress (Mar. 28, 2022), <https://ridgepolicygroup.com/ridge-napolitano-others-send-letter-to-congress-supporting-open-app-markets-act/>; see also Tom Ridge, *App store owners push security claims to stifle competition*, The Philadelphia Inquirer (May 4, 2022), <https://www.inquirer.com/opinion/commentary/app-store-download-security-apple-google-20220504.html>.

⁶³ Ridge Policy Group, *supra* note 62.

Left unchecked, dominant digital platforms such as Apple and Google, will continue to act as gatekeepers and toll-takers between businesses and consumers. It is, thus, critical that the U.S. government take action to enact bipartisan legislation, now pending in Congress, that would prohibit much of the harmful conduct that CAF has identified in these comments. This important legislation will empower businesses and state attorneys general to act as force multipliers when it comes to holding big tech accountable for violating the law.⁶⁴ Given the significant harms to businesses and consumers that have already been caused by the conduct of digital gatekeepers, it is imperative that the federal government act without delay.

V. Conclusion

CAF appreciates the opportunity to submit its response to the NTIA's Request for Comment. As the NTIA moves forward, we encourage the agency to continue to engage with app developers and groups that genuinely represent app developers' interests. After all, without app developers, there is no app ecosystem. Consistent with this, CAF remains at the NTIA's disposal for any information required to inform its important work on competition in the mobile app ecosystem.

Respectfully Submitted,

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⁶⁴ The Supreme Court has long recognized the key role private litigants play in enforcing federal antitrust laws. *See, e.g., Mitsubishi Motors Corp. v. Soler Chrysler-Plymouth, Inc.*, 473 U.S. 614, 635 (1985) (“Without doubt, the private cause of action plays a central role in enforcing this regime.”).