Submission on Statement of Scope – CMA Mobile Ecosystems Market Study

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Executive Summary

We welcome the opportunity to comment on the scope of this market study, which happens at a critical time in the lifecycle of the mobile app ecosystem, amid similar competition investigations taking place into almost all competition/antitrust aspects of mobile devices and their ecosystems. Platform-based business models present a challenging new layer of market concentration, and it is welcome to see the CMA attempting to deal with this issue directly and head-on.

The CMA is right to be concerned in this area, although we present in this response a case that, while there is clearly a competition problem that the CMA has pointed out, there is a re-framing required of the wider issue around ecosystems that the CMA has identified. Specifically, there are consolidations of ecosystems emerging through lock-in measures, to the point that competition in and of itself is not necessarily an effective remedy to the underlying problem.

As an example, the CMA should consider web browsers and their engines (on the desktop platform). Beneath a range of brands of browser, ultimately there are really only 3 main browser rendering engines – WebKit (i.e. the Safari engine), Blink (Google Chrome's engine, itself derived from WebKit) and Gecko (independent, created by Firefox). Even Microsoft Edge uses the Blink engine – there are economies of scale in browser engines that are too attractive for companies to resist. Noting that using Safari requires switching device ecosystem (and changing hardware for Apple hardware), this leaves most users on Google Chrome, or browsers based on Blink (Firefox has only around 3.3% marketshare, according to StatCounter in June 2021[1]). While there is therefore a veneer of competition, the reality is that the competition is mostly superficial. The same is true in mobile and other platform-based ecosystems, where extractive pricing and fees of 30% are common across the board[2]. Such prices can be charged as developers lack meaningful alternatives, and the barrier to entry for creation of a new entrant is high, hence pricing has converged. Platform-based business models have broken the current concept of a competitive market.

We believe and justify in this submission that the appropriate solution is for the CMA to regulate these digital platforms as utilities (or seek the necessary legislation to do so), in the same way energy and telecoms networks are regulated. These traditional utilities are networks in exactly the same way there are "network effects" the CMA has pointed out among mobile platforms. Where it is not feasible for there to be effective competition (such as in infrastructure), treating platforms as utilities (i.e. the pipes, wires and fibre of the networks) helps the platform to act as a conduit for other parties to deliver value over. Both Apple and Google fully intend for their platforms to be used by other businesses to reach users, and therefore the CMA has the ability to act decisively and recognise these platforms as utilities currently undergoing market failure, and regulate them as such.

1 https://gs.statcounter.com/browser-market-share
2 https://www.theverge.com/21445923/platform-fees-apps-games-business-marketplace-apple-google

Introduction

The CMA's description of the sector is accurate, and reflects the realities of the mobile ecosystems. The market study team should be commended for their detailed analysis and understanding of the problem area, and their depth of analysis into some of the consequential impacts of the current market structure.

In particularly, it has correctly captured some significant points:

- the fundamental and significant role that mobile devices play in modern life.
- the inherent lack of choice and competition which has emerged on mobile device app stores, due to "lock-in" of the platform owner's payment system.
- the importance and significance of default settings, default applications and other "default" choices which lead to network effects, which may need to be tightly regulated, in order to prevent anti-competitive effects arising.
- the inherent friction and cost barriers to switching mobile ecosystem, and the effective reduction in competition this entails for most consumers (i.e. a monopoly scenario)

This response adds a number of areas that the CMA should also consider, or should place more focus on, due to their importance in the wider ecosystem's competitive landscape.

We propose that the CMA should carefully consider when carrying out their investigation that the general context around which people use and rely on mobile devices has evolved over time, and continues to evolve, and that the ways people interact with public and private services has shifted to the point where it is difficult for people to get by without access to a mobile device – businesses and Government assume everyone has a mobile number and can receive messages by email, and this trend is likely to continue in the drive towards digital-by-default which we see ongoing. It is difficult to deny that "platform" companies stand poised to benefit from the increase in reliance on mobile devices.

The CMA should note when Covid-19 contact tracing apps were being mooted, that Apple and Google, private companies, were effectively acting in an unelected quasi-governmental capacity, dictating how the UK Government could and could not implement contact tracing on the devices whose platforms they controlled[3]. This is an area that the CMA should carefully explore – while Apple and Google undoubtedly had their reasons for arguing their positions, it is important for the CMA to ensure that unelected technology companies recognise their place and role in a democracy. The reason they were able to do this was because of the extreme level of market dominance and control they have over platforms, which other businesses have no real choice but to accept, if they wish to make apps available to users of mobile devices, which are the main internet access devices of users.

It is important that the CMA does not lose sight of the goal in ensuring an effective functioning competitive marketplace – that large platforms are profitable and successful does not provide them a justification to use their dominance to eliminate or discourage competition, or exploit network effects in anti-competitive ways.

3 https://theconversation.com/contact-tracing-apps-apple-dictating-policies-to-nations-wont-help-its-eu-anti-trust-probe-141304

There is also an inherent challenge for small independent app developers[4] in dealing with large multi-national app store platforms like Apple and Google. Apple and Google can remove developers' apps from their platforms with scant justification, and can impose restrictions and obligations on these developers around their business models and practices[5]. This serves as strong coercive pressure. Android developers regularly report getting into Kafka-esque loops in trying to resolve rejections of their apps or app updates, and that the rejections they receive are vague and unactionable[6], as well as inconsistent[7].

While app store operators will undoubtedly argue that the developer agreements in place are business-to-business relationships between two commercial actors, the CMA should explore whether these agreements are in effect unconscionable contracts, due to a lack of competition in the provision of app distribution platforms, which allow platform providers to misuse their position in the relationship. Developers have no meaningful ability to bargain or negotiate these terms, and changes to these terms need to be accepted unless a business wishes to effectively close-up shop. The CMA and wider Government should explore the strategic loss of control to the UK economy that this may have, and the potential negative impacts of this kind of coercive influence being able to be exerted over app developers.

The CMA should also note that in some cases, the losers from these restrictions may well be consumers – Apple's refusal to allow developers to even communicate to their users that Apple takes 30% of payments is arguably oppressive, and as has been argued in the Epic Games v. Apple case in the US, raises prices for consumers.

On the topic of App Stores, the CMA should carefully consider whether Android device manufacturers (OEMs) are subjected to coercive commercial pressure from Google, a dominant market player in search engine and web services, to distribute their store in order to access other apps. There is evidence of Google using "bundling" tactics in versions of their Google Mobile Services distribution agreements[8].

As such, the CMA should evaluate past and current versions of the GMS distribution agreements (sometimes called the Mobile App Distribution Agreement), using any available information gathering powers to gain access to these agreements.

These agreements have previously been reported to include very specific clauses designed to give Google's own services prominence:

> "Google Phone-top Search and the Android Market Client icon must be placed at least on the panel immediately adjacent to the Default Home Screen; (3) all other Google Applications will be placed no more than one level below the Phone Top; and (4) Google Phone-top Search must be set as the default search provider for all Web search access points on the Device".[9]

4 https://www.hey.com/apple/
5 https://arstechnica.com/tech-policy/2020/08/facebook-says-apple-vetoed-telling-users-about-30-percent-event-charge/
6 https://old.reddit.com/r/androiddev/comments/gh82i6/why_is_google_so_vague_when_rejecting_app_updates/
7 https://old.reddit.com/r/androiddev/comments/md1mvk/google_play_app_review_is_getting_worse/
8 https://www.sec.gov/Archives/edgar/containers/fix380/1495569/000119312510271362/dex1012.htm
9 https://www.phonearena.com/news/Leak-reveals-Googles-Android-Mobile-Application-Distribution-Agreement_id52589

In addition, Google has been documented as using their dominance in web search to attempt to gain and reinforce their marketshare in the web browser market, by aggressively advertising the Chrome browser to users[10], and encouraging them to switch.

10 https://help.getadblock.com/support/solutions/articles/6000199984-how-can-i-block-the-switch-to-chrome-notification-on-google-s-home-page-

Theme 1 – Competition in the Supply of Mobile Devices and Operating Systems

Mobile devices are a market in themselves, not a subset of another market

In this section, it is important for the CMA to note the **inherent technical distinction between mobile devices and general purpose computers** (i.e desktop computers and laptops). Mobile devices are almost invariably built using "system on chip" designs, which incorporate a CPU and most other components needed to provide a modern device on a single chip – often the device memory and storage are the only major components sitting separately. This level of tight integration means that **mobile device operating systems are very significantly tailored to a specific device's hardware**, and drives increasingly proprietary solutions. Neither iOS or Android has any "official" alternative choice of operating system available. Apple takes significant steps to prevent the running of alternative software on their hardware platforms, and tightly binds their hardware and software to prevent the software being run on other platforms.

Indeed, Apple also implements technical measures (with justification around user privacy) to pair together components of the phone, which result in an effective reduction in the ability of a user to repair their phone by replacing components. This illustrates the extent to which the **hardware and software of mobile devices are inherently and inexorably linked**. This means the CMA should carefully consider the software and hardware in the ecosystem as being "inherently tied". General purpose computers and other devices are therefore **not in the same marketplace as mobile devices** – they **do not interoperate in the same ecosystems**, generally cannot run the same apps, and therefore **are not suitable replacements for mobile devices**. This means that when considering market dominance and competition, they should not be considered as functional equivalents, since users cannot effectively use them as meaningful alternatives to a mobile device.

Mobile devices ecosystems are non-interoperable, and should be considered independently

Given these ties, the question of consumer choice should also consider that it is not possible to use Apple hardware with the Android operating system, and vice versa. This effectively helps to create two **"walled gardens" of economic activity**, with limited options for consumers to switch in a non-punitive manner. The CMA has identified the cost barriers associated with switching, and should consider these carefully when evaluating the app stores – given the **inherent and deliberate technical barriers to switching**, and total **lack of interoperability or compatibility**, the iOS app store and Play Store should be considered as **two separate markets**, where the platform operator has an **absolute (or near-absolute, in the case of Google) monopoly**.

The CMA is right to point out the potential for natural barriers to entry in providing mobile operating systems. In reviewing this, they should pay particular attention to **"bundled" default services,** and in particular any **features or design choices** (including, for example, dark patterns), which serve to aim to **build a network effect and discourage or detriment those switching to alternative providers**.

Features can build network effects and discourage switching platforms

For example, **Apple's iMessage service is bundled with the operating system**, and is effectively **enabled by default** for users. iMessage is a feature of the Apple default messaging

application, which is also used to send standardised and interoperable messages (SMS and MMS). Apple has designed their service to be seamless, but users are likely unaware that if they move from an iPhone to non-iPhone, they need to manually disable the iMessage service[11], or they will not receive messages from Apple device users any more[12].

Apple exposes whether or not a given conversation is taking place over iMessage or SMS through their messaging app by using a different background colour to messages. Messages sent over iMessage from an iPhone user have a "blue bubble", while messages sent from non-iPhone users (and therefore over SMS/MMS) have a "green bubble"[13].

The phenomenon of "green bubble" versus "blue bubble" is widely reported in the media[14], and the lack of interoperability means, to quote The Verge, "The only fix, really, is to get an iPhone, and Samsung doesn't want that to happen"[15]. A peer pressure effect[16] has also evolved around this[17]. This serves to attempt to limit consumer choice and present a potential barrier to switching, and thus to competition, in the mobile operating system market.

While technical innovation and introduction of new services like iMessage is a positive for consumers, the CMA should holistically explore how both mobile platforms may have made choices like this specifically to create differentiation between platforms, and attempt to gain and retain marketshare through their deliberate choice to use and advance non-interoperable services. There are many technically interoperable cross-platform messaging services, including WhatsApp, Signal and Wire, to name a few. These all offer broadly similar functionality to iMessage – end to end encryption of messages for privacy, the ability to send images, the ability to have group conversations, and the ability to see when someone has seen a message and is typing a response. The difference is that these services are inherently interoperable and cross-platform – users of iOS, Android and indeed other general purpose computer operating systems can use these.

Such dominance may harm third party developers

The CMA may wish to explore whether such independent third-party services or platforms have been detrimented through unfair competition arising from the bundling of "default" functionality built into mobile operating systems, by providers holding and using significant market power in other sectors to gain significant market power in these markets.

DRM functionality on Android may be tied to Google's services being preinstalled

In the Android device space, the CMA should explore and consider whether Google's SafetyNet platform security features, and implementation of WideVine digital rights management (DRM) could indirectly or directly serve to hamper competition by driving makers of Android phones to have little choice but to ship Google's Services (and thus enter into the Mobile App Distribution Agreement.

11 https://support.apple.com/en-gb/HT203042
12 https://support.google.com/pixelphone/answer/6156081
13 https://www.androidauthority.com/green-bubble-phenomenon-1021350/
14 https://gizmodo.com/im-buying-an-iphone-because-im-ashamed-of-my-green-bubb-1787965756
15 https://www.theverge.com/2019/8/21/20826812/samsung-giphy-gifs-instagram-meme-makers-blue-green
16 https://www.techdirt.com/articles/20150211/05455029985/green-bubbles-how-apple-quietly-gets-iphone-users-to-hate-android-users.shtml
17 https://nypost.com/2019/08/14/sorry-android-users-these-iphone-snobs-wont-date-you/

SafetyNet requires devices to have their platform configuration "blessed" by Google, and be whitelisted[18]. This requires Google's proprietary services framework and play services to be present on a device, in order for apps to query the status of a device through SafetyNet. The SafetyNet features are widely used by third party developers, such as banking apps and other secure services. It is likely that an OEM producing a handset would be under pressure from user demands to ensure their device supports such apps, and therefore would be under pressure to implement SafetyNet.

It would be technically possible and feasible for SafetyNet to be decoupled from other Google services and applications, and the CMA should explore how this could present opportunities to reduce friction for OEMs to develop their own ecosystems which can interoperate with existing Android apps, without requiring developers to move away from APIs like SafetyNet.

The same is true of the WideVine DRM APIs – for a device to support streaming video services like Netflix or Prime Video. WideVine is owned by Google[19] following an acquisition, and can be used by content rights owners to restrict access to multimedia content on devices that are not sufficiently secure (in the eyes of the rights-holder) to protect the content.

The CMA should also explore if Google's ownership of WideVine has any impact on the ability of OEMs to deliver devices independent of Google's services, and whether this may result in a reduction in choice for consumers, and further consolidation of Google's position of dominance in the mobile operating system ecosystem. Given the rise in popularity of digital streaming services, this is likely to be an area where consumers will buy devices that support WideVine and SafetyNet. In particular, the CMA should explore whether any devices offer WideVine and SafetyNet functionality without also shipping Google Services (and the Play Store).

App Store rules restrict business models and discourage platform switching

Another area the CMA should explore around competition in the supply of mobile apps is the restrictions in both iOS and Android's stores, which prevent developers from unlocking functionality in apps on the platform through any means other than in-app purchases or other payments through the platform's own systems. For example, the iOS app store review guidelines say:

> "Apps may not use their own mechanisms to unlock content or functionality, such as license keys, augmented reality markers, QR codes, etc. Apps and their metadata may not include buttons, external links, or other calls to action that direct customers to purchasing mechanisms other than in-app purchase."

Restrictions like these serve to not only reduce or diminish competition in app distribution and payment processing (since in-app purchases must use Apple's payment processing mechanisms), but simply prevent competition outright. The CMA should consider whether it is reasonable for app developers (which are businesses independent from the platforms) to be restricted in this way – this precludes a wide range of legitimate business practices, which could include "giveaways" or other in-person interactions (i.e. visiting a retail store) which could unlock functionality. Restrictions like these therefore not only harm consumers through

18 https://in.pcmag.com/mobile/133064/google-removes-huawei-mate-30-from-its-safetynet-whitelist
19 https://www.vdocipher.com/blog/widevine-drm-hollywood-video/

a lack of price competition, but they also may hold back innovation in business models for apps.

This also acts to prevent developers from supporting users migrating between platforms – a developer cannot, if they want to, easily help a user to migrate between mobile platform by "transferring" their purchase on one app store to another. Some developers may wish to offer cross-platform functionality, where a user could buy the app from their website directly, and gain access to it on Android and iOS. This is not permitted by Apple or Google, and this would perhaps slightly reduce barriers to competition between the two platforms.

It is worth noting that this scenario was and is a very common one in the personal computing field – there are plentiful examples of small[20] and large software developers offering cross-platform software to users on PC, This means a user can buy the software directly from the developer, avoiding platform-charges from an app store operator, then use the software on any supported platform they wish. If a user later wishes to change platform, they can simply transfer their licence between platforms with a few clicks. For example, Adobe Creative Cloud offers cross-platform licensing, as does the widely used Microsoft 365 platform. Users can freely move their licence between Mac, Windows, and web browser (in the case of Microsoft 365, enabling use with Linux)

20 https://forum.blackmagicdesign.com/viewtopic.php?f=21&t=68545

Theme 2 – Competition in the Distribution of Mobile Apps

The CMA has correctly identified the two main concerns here – Apple's refusal to allow anyone but themselves to distribute apps, and Google's push to have the Play Store preinstalled on devices, giving themselves a significant and dominant position.

Google's Mobile App Distribution Agreement, as discussed earlier, leads to the "bundling" of the full suite of applications (including the Play Store, and other Google Apps), and therefore the CMA should explore this, and the extent to which this unfairly detriments rivals. At time of writing, the Android platform allows alternative app stores to exist (for example, F-Droid, an open source store of only open source apps). These platforms face some technical challenges, such as not being able to automatically update apps without user intervention. The forthcoming Android 12 operating system (in beta at time of writing) appears to introduce changes to remove this limitation[21]. The CMA should explore this as it evolves, and whether users are aware of alternative stores, or whether, as the CMA has pointed out, network effects are such that it is prohibitive to build a new (two-sided) store and gain both developers and users.

Non-Native (i.e. web-based) applications are not credible alternatives to native apps

When exploring potential alternatives to app stores, and their suitability, the CMA should keep in mind factors including convenience, usability, and adoption by developers. They should also take into account that there are inherently technical advantages for "native" apps (installed via an app store natively to the device), such as in security and data storage. For example, native apps get access to secure authentication APIs on the device which allow for strong authentication to servers – this is why mobile banking is widely encouraged by banks. In many situations, carrying out best-practice strong authentication of users will significantly benefit from this. The CMA has suggested that web applications or PWAs may be potential alternatives to native apps (and that web-based technologies can be distributed outside of app stores). The CMA should consider the technical differences between native and web-based apps, and note that even Government apps[22] such as the EU settlement scheme app are native apps, as to gain meaningful access to the functionality of a modern smartphone, such as NFC[23], Bluetooth[24], and other features.

In addition, applications are inherently more secure when they sit in isolated "sandboxes" (as native apps do on both iOS and Android), rather than sitting within one shared context (a web browser engine) – a compromise of the browser engine could result in all information accessible to the browser being exposed to a website or application. Websites or "Progressive Web Apps" therefore do not necessarily present viable solutions for developers.

The CMA should, to satisfy itself that web-based apps are not suitable alternatives to native apps, also explore support for PWA functionality among each platform, taking into account that Apple also prohibits developers from implementing any browser engine other than their own Safari one. Feature support for PWAs is limited in Safari, based on reporting in 2020[25],

21 https://www.xda-developers.com/android-12-alternative-app-stores-update-apps-background/
22 https://play.google.com/store/search?q=gov.uk&c=apps
23 https://stackoverflow.com/questions/68095496/ios-pwa-application-support-web-nfc-api
24 https://stackoverflow.com/questions/59594993/is-there-a-workaround-for-ios-pwas-to-talk-to-bluetooth-devices#59693392
25 https://simplabs.com/blog/2020/06/10/the-state-of-pwa-support-on-mobile-and-desktop-in-2020/

and some decisions Apple is making are likely to limit usability of web apps more generally as alternatives to mobile apps, such as the ability for websites to store content for longer than 7 days[26]. The inherent limitations of non-native apps are such that developers are significantly constrained in their ability to use device functionality and features, and access data stored on the device. While this is desirable from a security perspective, this firmly places non-native web-based apps in a separate camp as "second class citizens" – for example, there is no ability to send a push notification to a web app[27], which will restrict the type of app that can be made using PWA technology. This means that apps using web-based technologies would not be on a level playing field with native apps, which are distributed through the app stores.

Considering computers or other devices as alternatives to mobile devices may disproportionately detriment competitive market access for lower income households

When considering options for devices or apps outside of the two dominant mobile ecosystems, the CMA should carefully consider their own observations of the dominance of mobile platforms among users, and not lose sight of this. For many people, a mobile device will be the primary or sole means of accessing information and the internet. It is important from an equalities perspective to ensure that those without access to a laptop or desktop PC are not left with a poorer deal, or artificially restricted choice.

Research by the US Government[28] has pointed out that "low-income households have lower rates of in-home Internet connectivity compared with higher-income groups", and that in relation to households who rent with assistance from the US Department of Housing and Urban Development, "Connectivity rates are particularly low among HUD-assisted renter households, who are also more likely to depend exclusively on smartphones and other handheld devices to access the Internet in the home."

In light of this, the CMA should be very cautious when considering any kind of "multi-device" assumptions when exploring games consoles, smart TVs, and similar devices as being "suitable alternatives by consumers and app developers", noting the potential for an unintended consequence where users of mobile devices get a poorer deal than those on desktop devices (where there is greater competition and less platform lock-in). The CMA should therefore consider mobile platforms as a closed market, not including other devices, and should consider the two dominant mobile platforms as being discrete markets, where the platform operator holds a near-absolute monopoly, given the difficulty in switching, and inherent lack of interoperability.

Platform operators do not see themselves as facilitating a competitive market, and see their platforms as an opportunity for extractive practices to be levelled against other companies

To evidence that this is a real threat, it is worth noting that it has emerged through a US Congressional Committee investigation that at times people at Apple have engaged in discussions which are difficult to describe in any way other than demonstrating a desire to exert "extractive" practices on other businesses[29].

26 https://ionicframework.com/blog/is-apple-trying-to-kill-pwas/
27 https://simplabs.com/blog/2020/06/10/the-state-of-pwa-support-on-mobile-and-desktop-in-2020/
28 https://www.huduser.gov/portal/periodicals/em/fall16/highlight2.html
29 https://www.businessinsider.com/tim-cook-defends-apple-app-store-policies-antitrust-hearing-2020-7?r=US&IR=T

"For recurring subscriptions we should ask for 40% of the first year," Apple executive Eddy Cue wrote in an 2011 email. "I think we may be leaving money on the table if we just asked for about 30%," he added.

There is ample precedent to suggest that Apple is willing to impose restrictions on developers which could lead to mobile users getting a poorer deal – already today an app developer is not permitted to tell users that Apple takes a 30% cut on all payments made through the app[30]. This leads to app developers being forced to engage in a circuitous "dance" around the topic, avoiding letting users subscribe to the service through the app, while not being able to direct users towards their own website which may make them aware of the option to subscribe[31].

Developers face the chilling and draconian effect of removing their app from stores if they do not comply with rules like this. Platform operators are artificially raising and preserving raised prices as a result[32].

Given past statements apparently made by Apple, the CMA should be particularly concerned about how mobile platforms may act in relation to attempting to extract even more revenue from companies if the CMA does not take decisive steps to intervene – The Chief Legal Officer of Match has testified to Congress that, in relation to statements made by an Apple representative, "He added that we just should be glad that Apple is not taking all of Match's revenue, telling me: 'You owe us every dime you've made."[33]

This does not signal a healthy relationship between platform provider and developer, and the CMA should consider carefully whether this is conducive to a competitive marketplace.

30 https://arstechnica.com/tech-policy/2020/08/facebook-says-apple-vetoed-telling-users-about-30-percent-event-charge/

31 https://www.digitalmusicnews.com/2021/04/22/spotify-apple-anti-trust-hearing/

32 https://www.bbc.co.uk/news/technology-55678496

33https://www.bloombergquint.com/business/spotify-match-tell-senate-apple-is-abusing-power-in-app-store

Theme 4 (Role of Apple/Google in competition between developers)

The CMA has identified a wide range of important factors here which should all be explored. The concerns around platform owners also competing with third party developers is a significant one and this should be explored in particular detail.

Granting of privileges to one developer over others can distort competition unfairly

On the topic of competition between developers, the CMA should explore in particular the use of the entitlements system in the iOS platform and how access to these may affect competition, or be used to impact on competition in the future– entitlements are a property of apps, applied as a digital "stamp" to an app by Apple. This stamp permits them to access functionality of the operating system, and data. Without access to an entitlement, the app's functionality may be restricted.

An entitlement is required for an iOS app to work on Car Play for example. Some entitlements are private, and not documented for developers. There is a documented case where it appears Apple has given private and apparently exclusive access to entitlements to one developer, but not to their rivals[34]. In the case of Zoom, the video conferencing app, they were given an entitlement on their app which allows for access to the device's camera in the background[35]. Apple has since introduced documentation on this entitlement[36], and how to gain access to it, but in a highly competitive market, being "first to market" with a feature can be critical, and it is important that platform operators like Apple and Google cannot and do not distort competition between developers.

This distorts competition in an unrelated market (video conferencing) by allowing Zoom to offer features that their other rivals cannot. Rivals of Zoom who have potentially been harmed by this include Microsoft, Google, but also independent smaller developers, and open source software developers, such as Jitsi[37].

Tim Cook, Apple CEO, has testified to Congress in the US that "we treat all developers the same"[38]. Yet as the above example highlights, this is documented to not be the case, and Apple has granted one developer private privileged access to features, and not made that functionality available to others. This has the real potential to distort competition, and is something the CMA should investigate very carefully.

> "*We treat every developer the same. We have open and transparent rules, it's a rigorous process. Because we care so deeply about privacy and security and quality we do look at every app before it goes on. But those rules apply evenly to everyone.*" - Tim Cook

34 https://wccftech.com/zoom-becomes-the-only-app-to-have-access-to-private-ipad-camera-api-for-multitasking/
35 https://blog.thinktapwork.com/post/649630720084639744/ipad-camera-multitasking
36 https://developer.apple.com/documentation/avkit/accessing_the_camera_while_multitasking
37 https://jitsi.org/about/
38 https://www.businessinsider.com/tim-cook-defends-apple-app-store-policies-antitrust-hearing-2020-7?r=US&IR=T

Potential Remedies

The CMA is right to identify a wide range of potential remedies here, and this section of the response will explore these, and also identify an additional potential remedy.

Interventions that limit platforms' ability to exercise market power should absolutely be explored in the first instance – these could present suitable interim "injunction-style" remedies to prevent abuse and wider harm while a wider investigation is undertaken by the CMA. There are existing laws which can be used here, and better enforcement of the UK's implementation of EU Regulation 2019/1150 could be used to permit the CMA to proactively police the practices of the operators/providers of mobile device app stores and platforms, and aggressively and proactively seek enforcement of clauses around "differentiated treatment" and "restriction, suspension and termination" of businesses relying on these platforms.

The CMA should consider in this context that mobile app platforms are increasingly acting as, and holding, gatekeeping roles to the wider UK economy, as the CMA has identified in its scoping work, and that there may be a need to protect the interests of UK businesses promptly in this regard, to ensure a functioning, fair, and competitive marketplace. The CMA should keep in mind the chilling coercive influence app store platforms have over developers, through rejecting updates or threatening to remove apps from stores, and the CMA should establish a rapid-response help desk urgently, to support developers and advise them of legal remedies which may be available to them. The CMA should use this as an information-gathering function, and regularly liaise with platform-providers to ensure they are not abusing market power even as this initial market study takes place.

Given the increasing significance of the gatekeeper role being held by mobile app platforms on the wider UK economy, this underlines the importance of the additional remedy we have proposed, to recognise and regulate mobile app platforms as utilities, in order to ensure they sit within an appropriate regulatory framework which is fit-for-purpose as part of the UK's economic infrastructure.

Interventions to promote interoperability and common standards are interesting ideas, although would be challenging to see work effectively, and likely be very difficult to actually mandate the use of – as has been seen increasingly in recent years, technology tends to out-pace regulation. Any action in this regard would need to be suitably future-proofed to prevent mobile platform operators from taking simple steps to frustrate the intention of the interventions, such as by renaming products or deploying new products which were not subject to the order. For context, Google has operated a significant number of different messaging apps[39], which are not interoperable even among themselves. Any interventions in this regard would need to be enduring and lasting to have any benefit.

It is also worth noting that forcing interoperability between competing providers may have the unintended consequence of holding both platforms back to the capability of the lowest common denominator, or lead to the creation of an "extensible" platform, where the

39 https://www.androidauthority.com/google-messaging-apps-867843/

providers then return to providing non-interoperable extensions to an interoperable protocol, in order to continue to innovate and differentiate.

Consumer Choice Remedies may not be sufficient if they focus solely on awareness, noting the significant market power and concentration in arguably multiple markets, enjoyed by the platform providers. Consumer choice would not, for example, address many of the issues around control of closed ecosystems and the ability for app store operators to lock consumers in. The CMA is absolutely right to consider the "choice architecture" and defaults presented to users, as the construction and user perception of products and services, and their default settings, are absolutely pivotal to this.

When considering consumer choice remedies, the CMA should accompany them with forced liberalisation of the market, to ensure there is genuine competitive service provision, and an open market where others can enter to provide app stores. The CMA may also need to explore other options where the incumbent platform providers are required to raise awareness of rivals' offerings, as has been previously seen through browser and search engine ballots.

Separation Remedies, of whatever form they take, would appear to present credible solutions to some of the inherent conflicts of interest seen in the mobile device ecosystem.

Potential separations which may make sense:

1. Separation of provision of payment processing services for purchase of apps from operation of app store platform.

This could permit price competition and differentiation between payment processors, and prevent the app store providers from forcing customers to use their own preferred payment platform, which gives them sufficient control to then set and charge fees, absent competition.

There are a limited number of payment processors available. Google and Apple choose to provide their own payment processing services, which developers are required to use for all digital-related purchases on their platforms. In the wider platform ecosystem (i.e. beyond app stores), platforms are generally tightly bound to payment processors, which helps platform operators to leverage market dominance to enforce extractive pricing – coupling the platform to a given payment service helps the platform operator ensure they can technically enforce their ability to take a cut of all economic activity on the platform. By breaking this link, platform (i.e. app store) service provision would be de-coupled from payment processing, and open the door to allow competing payment processors to be used, selected by developers themselves, which would open developers up to be able to use the wider price-competitive market of payment processing services which is the free market option available to developers that are not locked into platform-centric mobile app distribution.

2. Separation of app quality review function from operation of app store platform and provision of the OS.

By seeing true separation of these functions into separate organisations with different owners and incentives, this would ensure that apps developed by the platform operator receive the same level of scrutiny and review as apps by third parties. Greater accountability and meaningful human intervention and dialogue could also likely be better delivered through

an independent organisation which is measured on positive relationships with developers, rather than through a large multi-national platform operator which aims to reduce meaningful individual interaction with developers due to the challenges of scaling it.

3. Separation of operation of app store platform from mobile operating system development.

Today, app distribution is tightly bound to the developer of the operating system. By separating these concerns, this would prevent one organisation from exerting full control over an ecosystem. The operating system developer might still be able to ship "core functionality" with the device, but they would be unable to prevent third parties from developing competing apps and distributing those through the store. This would also address conflicts of interest such as those highlighted by Spotify and others, where they have to pay a 30% charge to their rival for platform access[40], which would make their rival (that owns the platform) significantly more profitable or price-competitive.

This approach would also permit multiple app stores to exist, and for users to elect to purchase on a different store, based on open market competition. Today there are structural barriers such as default choices which make this difficult on Android, but some niche competitors do exist. The F-Droid store, for example, allows users to install open source applications on Android devices without using the Play Store. After the release of Android 12, it is likely that other third party app stores (i.e. not those developed by the device OEM or Google) may be able to gain marketshare if Google was prevented from exerting anticompetitive influence over the changes.

Seeing a similar situation on iOS (where multiple competing stores can distribute apps, making their own commercial decisions) would be a significant step forward in ensuring the iOS platform presents an open and competitive ecosystem for businesses and apps to thrive on, without being reliant on Apple's blessing to release an app.

It is likely that Apple will significantly object to this remedy, and point out the impracticalities and technical challenges of allowing apps to be installed from other stores. It is worth the CMA bearing in mind pre-emptively that Apple is heavily incentivised to argue this, given the control (both direct and through influence) they have over a highly lucrative monopolised ecosystem, as the CMA has pointed out in its own scoping work.

There are technical changes which could be made to the iOS security model to ensure that app sandboxes and entitlements are approved by the app store that installed an app, and to prevent apps from one store from interfering with apps installed from another store. Apple's model of itself being the only entity able to sign code to run on the device could easily be supplemented with a means through which a user can choose to install and run one or more alternative app stores. This is the situation that already exists on Android.

Ultimately, as the CMA has itself pointed out, consumer choice remedies are available and under consideration. Requiring dominant mobile platforms to enable and permit the use of third party app stores would be a significant step forward for consumer choice, and ensure that informed consumers can access apps which may compete with the commercial interests of the platform providers – Apple has been documented to have rejected apps for "duplicating functionality" of features in their OS[41]. Indeed, Apple also is documented to have

40 https://www.theguardian.com/technology/2019/mar/13/spotify-claim-apple-30-percent-app-store-commission-unfair-european-commission-complaint

41 https://almerica.blogspot.com/2008/09/podcaster-rejeceted-because-it.html

threatened developers with removal of their apps for merely mentioning "Android"[42], or compatibility with a Pebble smartwatch[43] in app store descriptions. These are behaviours which demonstrate the impunity with which platform operators feel they can currently operate.

Therefore, it stands to reason that structural separation of large and dominant platform operators from app stores and other areas where companies compete and may rival the platform operator is prudent and proportionate, in order to permit a functioning competitive marketplace where providers can compete without fear of the chilling effect of removal from the store, with limited or no recourse available to them.

Proposed Additional Remedy – Recognition of Mobile Platforms as Utilities (i.e. as "common carriers" of apps and services) and the CMA proposing to Government that it legislate to subject these newly created utilities to regulation by the CMA as an independent market regulator, entrusted to drive a competitive marketplace and ecosystem, absent of "platform monopoly" effects.

The CMA should therefore consider whether mobile platforms, comprising the mobile ecosystem, are at a point of significant market share dominance and concentration that they should be considered to be, and regulated as, "utilities", as fundamental infrastructure, upon which apps and services can be delivered in a competitive manner. If the CMA does not seek to force separation remedies and compel mobile device makers to facilitate installation of rival app stores, designation of the platforms as utilities by Government could provide a regulatory framework in which they would become regulated monopolies, in the same way as power distribution companies are local monopolies regulated by Ofgem.

This position is justifiable – the NIS directive[44] (retained by the UK as "The Network and Information Systems Regulations 2018") considers app stores as "essential for the maintenance of critical societal or economic activities". EU Regulation 2019/1150[45] recognises the importance of fairness for businesses relying on online intermediation services (like app stores), and sets out in Article 4 a series of stringent obligations around "restriction, suspension and termination" of service to businesses, and the requirement to provide justification, including "reference to the specific facts or circumstances, including contents of third party notifications, that led to the decision of the provider of online intermediation service", in a "durable form" to businesses.

This indicates and reinforces the importance that these platforms play in the modern economy, and the CMA should consider very carefully whether it can and should go further in its investigation, and potentially explore how it could recommend to Government that app stores (at least in the context of mobile devices initially) could or should be considered as utilities through legislation, and subject to independent regulation (presumably by the CMA) as such.

Given the significant importance of these platforms in the modern economy, and the limited independent scrutiny of them to date, despite their importance in gatekeeping access to an

42 https://www.ilounge.com/index.php/news/comments/apple-forces-removal-of-android-mention-from-app-store
43 https://www.iphonehacks.com/2015/04/seanav-us-rejection-pebble-support.html
44 https://www.fieldfisher.com/en/services/privacy-security-and-information/privacy-security-and-information-law-blog/nis-directive-establishes-first-eu-wide-cyber-security-rules
45 https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32019R1150&from=EN

apparently competitive marketplace, independent proactive regulation by the CMA would appear justified.

The current problems the CMA faces come about as a result of a failure to recognise that mobile platforms have become de-facto conduits that other parties are forced to try to deliver value over. Absent the intervention desperately needed, pricing has stagnated until the threat of regulatory[46] intervention[47] arose in the last year, resulting in both Apple and Google offering a reduced commission of the same level (15%) for developers generating the exact same quantity of revenue ($1m/year).

The CMA needs to be cautious, as competition itself may not resolve the root problem – looking beyond mobile platforms, the model of "forced intermediation" by economic actors (i.e. Google, Apple, Valve, etc. placing themselves between developers and customers) serves to appeal to user convenience (reduced user friction by using your existing payment account, etc.) Despite a range of options, the standard headline go-to platform fee is 30% in app stores[48]. Being able to operate an extractive business model based on having an effective monopoly over software distribution on a device is an attractive proposition to any new entrant, and the CMA should explore how these platforms, declared as utilities – conduits for value to flow through to enable the wider economy and society, like water, power and gas – would better enable competition and deliver a fairer deal for customers and developers, and help to future-proof the regulatory landscape against future evolutions in the sector.

Such an approach would be in line with regulatory practices in other sectors where there are market factors which prevent or discourage new market entrants – such as the energy and telecommunications sector. With only 2 effective choices of mobile platform, and barriers to changing provider as pointed out by the CMA, the CMA should consider whether it would be more effective to regulate these App Stores and associated parts of their ecosystems as utilities, and subject those operating the platforms to independent CMA regulation and oversight.

The CMA should also explore how it can proactively and rapidly respond as a regulator to changes made by platform providers, where the changes made could adversely impact on competition or affect the ability of developers to access or communicate with their users, or where changes may seek to create network effects which could stifle competition. This is especially important in the technology sector, where technical evolution regularly outpaces the regulatory response, leaving consumers at risk of detriment, harm and reduced competition while regulators catch up.

The CMA should, in considering how to respond, note the length of time which has passed since mobile app platforms gained significant market power and have held effective monopolies, and the CMA launching this investigation – it is important that the CMA signals to the market the importance of competition and open markets, acts decisively to show that artificially suppressing competition is unwelcome and will not be tolerated, and considers how it can respond more promptly in future to business practices which harm UK businesses' and consumers' interests.

46 https://www.forbes.com/sites/paultassi/2020/11/18/apple-will-reduce-ios-app-store-cut-to-15-but-not-for-fortnite-and-others/

47 https://www.bbc.co.uk/news/technology-56415621

48 https://www.theverge.com/21445923/platform-fees-apps-games-business-marketplace-apple-google