Response to ACCC's Discussion Paper for Interim Report No 5.

Browsers and Web-Apps
VERSION 1.0

Open Web Advocacy
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1. Table of Contents

2. Open Web Advocacy

Open Web Advocacy is a loose group of software engineers from all over the world, who work for many different companies who have come together to fight for the future of the open web by providing regulators, legislators and policy makers the intricate technical details that they need to understand the major anti-competitive issues in our industry and potential ways to solve them.

It should be noted that all the authors and reviewers of this document are software engineers and not economists, lawyers or regulatory experts. The aim is to explain the current situation, outline the specific problems, how this affects consumers and suggest potential regulatory remedies.

This is an unpaid, volunteer grassroots effort by software engineers as individuals and not on behalf of their employers or any of the browser vendors. OWA advocates for Browser and Web App competition.

We are available to regulators, legislators and policy makers for presentations / Q&A and we can provide expert technical analysis on topics in this area.

For those who would like to help or join us in fighting for a free and open future for the web, please contact us at:

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3. Introduction

The entire future of the **consumer application industry** is being heavily limited by Apple's ban of third party browsers. These actions prevent cross-compatibility between devices, and create significant barriers for new market entrants. For businesses and consumers, it greatly increases costs and enables Apple to lock them into their closed ecosystem. This reduces competition for both browsers and applications, and shifts the cycle of investment and funding from an open and free platform to proprietary closed platforms, driving up prices for consumers and developers.

Apple has banned competing **Third Party Browsers** from their iOS devices (iPhone and iPad) by requiring that all browser vendors use Safari's WebView ([2.5.6 App Store Review Guidelines](#)). Browser vendors are not allowed to ship their browsers which they have spent hundreds of thousands of hours developing and instead are forced to produce a separate browser which is essentially a thin wrapper or skin around the WebKit engine in Apple's own browser, Safari.

Critically this browser ban prevents the **emergence** of an **open and free universal platform** for apps, where developers can build their application once and have it work across all consumer devices, be it desktop, laptop, tablet or phone. Instead it forces companies to create multiple separate applications to run on each platform, significantly raising the cost and complexity of development and maintenance. These costs are in addition to the 15% - 30% tax charged by the App Store. This greater cost is ultimately passed on to consumers in the form of higher fees, more bug prone applications and the applications not being available on all platforms. This then decreases competition with other manufacturers by depriving them of a healthy library of apps. The costs of developing an interoperable application that works identically are pushed so high that only well funded companies can afford it and as a result many useful or otherwise profitable applications never get built.

Apple is preventing the interoperable, standards-based web from becoming a viable alternative to the native proprietary ecosystems on offer from Apple and Google. In the absence of competition, the poor state of Apple's own browser and integration of Web Apps has the effect of pushing developers and users towards the gated ecosystem of the App Store. Safari and Apple's WebView frequently suffer simultaneous, critical application breaking bugs which spill into competing iOS browsers because they cannot bring their own engines which might not contain these bugs.

In a clear conflict of interest with third party browsers, **[Apple receives 15b USD per year for search engine placement](#)** in Safari while ensuring other browsers can not effectively compete on iOS, its most popular operating system. Mozilla, a non-profit, produces a browser that consistently bests Apple's in security and standards conformance with revenues of [less than $500 million per year](#).

A lack of market pressure, combined with [alleged systemic underfunding](#) over many years, prevents the web from becoming a viable application platform. The only way for developers to create stable, capable applications is to invest in Apple's proprietary platform, which it taxes and retains exclusive control over.

Individual companies benefit greatly from locking users in and their competitors out. Apple hides behind claims of extra security and privacy when, in fact, their restrictions deprive the consumer of choice and locks their data and purchases into Apple's walled garden. This prevents or adds great friction to users moving to competing platforms by hampering interoperability.

Web Apps add an extra layer of security and privacy controls to native application platforms, improving on the operating system's built-in controls leading to enhanced user safety. If allowed, Web Apps can offer equivalent functionality with greater privacy and security for demanding use-cases that are traditionally the domain of less secure native apps. A free & universal development and distribution platform is what leads to competition and an investment cycle in free and open software that benefits businesses and consumers.

Two key remedies from regulation can serve to restore meaningful competition:

1. **Reversing Apple's ban** on competing browsers and browser engines

2. Compelling **full integration and functionality** for apps built with open web technology, including on competing browsers

The future of consumer application development depends on these changes.

4. CMA's Mobile Ecosystems Report

On the 14th December 2021, the UK's Competition and Markets Authority (CMA) published an interim report as part of its Mobile Ecosystems Market Study. The market study looks at how the mobile ecosystem market is functioning, in particular in relation to Apple and Google's mobile operating systems. The ACCC could build upon the CMA's extensive investigation into Browsers and Web Apps. The report sets out the CMA's interim findings.

The CMA wrote:

> *"As a result of the WebKit restriction,* **there is no competition in browser engines on iOS** *and* **Apple effectively dictates the features that browsers on iOS can offer** *(to the extent that they are governed by the browser engine as opposed to by the UI)."*

> *"Importantly, due to the WebKit restriction,* **Apple makes decisions on whether to support features not only for its own browser, but for all browsers on iOS**. *This not only restricts competition (as it* **materially limits the potential for rival browsers to differentiate themselves** *from Safari on factors such as speed and functionality) but also limits the capability of all browsers on iOS devices, depriving iOS users of useful innovations they might otherwise benefit from."*

> [CMA - Mobile Ecosystems Interim Report](#)
> *(Emphasis Added)*

They also note that Apple has two perverse incentives to hold back Webkit and to hinder Web Apps ability to compete with the iOS App Store:

> "First, Apple receives **significant revenue from Google by setting Google Search** as the default search engine on Safari, and therefore benefits financially from high usage of Safari. Safari has a strong advantage on iOS over other browsers because it is pre-installed and set as the default browser. The WebKit restriction may help to entrench this position by limiting the scope for other browsers on iOS to differentiate themselves from Safari (for example being less able to accelerate the speed of page loading and not being able to display videos in formats not supported by WebKit). As a result, it is less likely that users will choose other browsers over Safari, which in turn secures Apple's revenues from Google."

> "Second, and as discussed in Competition in the distribution of native apps, Apple generates revenue through its App Store, both by charging developers for access to the App Store and by taking a commission for payments made via Apple IAP. Apple therefore benefits from higher usage of native apps on iOS. By requiring all browsers on iOS to use the WebKit browser engine, **Apple is able to exert control over the maximum functionality of all browsers on iOS** and, as a consequence, hold up the development and use of web apps. This limits the **competitive constraint that web apps pose on native apps**, which in turn protects and benefits Apple's App Store revenues."

<p style="text-align: right">[CMA - Mobile Ecosystems Interim Report](#)
(Emphasis Added)</p>

5. Market Investigation

OWA would recommend that the ACCC investigates:

1. The negative effects of Apple's ban of all competitive browsers from iOS including the harm to competition, consumers and security.

2. How Mobile Web Apps could produce higher quality and drastically cheaper applications, cut billions of dollars globally from developer/business costs, reduce gatekeeper lock-in, allow new mobile devices to enter the market and how an **open and free universal platform** for apps will drive competition.

3. How Apple acts as a gatekeeper for Browsers and Web Apps while receiving 15b USD per year from Google for Search Engine Placement and 72b from the AppStore in a clear conflict of interest.

6. Remedies

In this section we outline the primary and secondary remedies that OWA believe are necessary to restore meaningful competition. Remedies do not have to be implemented as a unified package. Each remedy that is implemented improves matters by itself. All are necessary to achieve true equity, but rejecting one doesn't imply rejecting the others.

6.1. Primary Remedies

1. **Third Party Browsers on iOS**
   Reversing Apple's ban on competing browsers and browser engines by requiring Apple to allow third party browser engines.

2. **Deep Web App / Native Integration on iOS and Android**
   The ability for all browsers on iOS and Android to be able to unilaterally create and manage their own applications, so they appear fully integrated with the OS, and provide the user control over their operation **without preference** to gatekeeper controlled and taxed native applications. This includes eliminating and prohibiting any dark patterns that will artificially encourage native apps in preference to web apps. Google should be compelled to provide the ability to other browsers to create their own WebAPKs.

3. **Browser / Web App Equity on All Systems**
   All Browsers and their Web Apps need equivalent and sufficient operating system access to provide equivalent functionality to gatekeeper's own apps, system provided functions and apps distributed via the gatekeeper's online stores.

4. **In-App Browser Restrictions**
   Apps should not be able to undermine a user's choice of browser and otherwise intercept, monitor or control a user's web access. Apps that wish to act as a browser should explicitly compete as a browser. See In-App Browsers for more information.

5. **Ensuring a User's Browser Choice is Respected**
   User's should be able to choose or change their browser and gatekeepers should enable this without discouraging or pushing users to a specific browser.

6.2. Secondary Remedies

6. **Ensuring a minimum level of Web App functionality on iOS**
   I.e. Install Prompts / Discoverability, Push API, Badging, Deep Links etc

7. **Allowing Web Apps to be directly submitted to App Stores**
   Ensure that Web Apps can be directly submitted via a web exposed API without the developer being required to own a specific device

   i.e. Developers shouldn't be expected to purchase a Mac with Xcode to build a Web App for Apple's OS, or a Chromebook to build a web app for Google's OS.

7. Summary

Apple receives [$15 billion USD a year](#) from their Google Search engine deal, representing 9% of Apple's 2019 gross profit. Apple has not published the annual budget for Safari/Webkit but based on [anecdotal evidence](#) it is likely significantly less than 2% of this sum.

Apple collected [$72.3 billion USD in App Store fees](#) in 2020. While it has not published the costs of App Store review, payment processing, refund handling etc, it has been estimated that the iOS App Store has a nearly [80% profit margin](#). Industries with healthy competition feature leading firms with profit margins between [5 and 20 percent](#). This imbalance strongly implies that Apple's removal of functional competition in the App Store and beyond have broken the mobile phone market for software and services for more than half of Australia's consumers.

If Safari/Webkit had competition on iOS, Apple would have great incentive to retain users on their browser by making a better, more functional browser. A competitive web ecosystem may also put pressure on rent extracting behaviour without sacrificing user safety as browser makers compete aggressively on security, privacy, and user-empowering features such as extensions.

Our primary submission "**Bringing Competition to Walled Gardens**" outlines our arguments in more detail.

We ask that the ACCC consider these issues in their market investigation. We believe that both the CMAs Interim Report and our response contain useful information on this topic. Additionally we ask that the ACCC considers our proposed remedies to restore browser competition and user choice on iOS.

The [remedies](#) combined will restore competition between browsers on iOS and between Web Apps and Native Apps on iOS.

- This has a number of benefits to consumers including:
- Cost savings (in the billions annually)
- Higher quality software
- More private and secure software
- Greater control by end users
- Greater interoperability with devices from other manufacturers

A ban on third-party browsers benefits Apple and harms users, developers and businesses.

Competition not walled gardens leads to the best outcomes

8. Further Notes on Discussion Paper

Section 3.1.1
- Apple's market power needs to include their control over Safari and the only engine available on iOS (WebKit)

Figure 4.1
- It needs to be recognized that the Browser could be (if allowed) a primary way of distributing Applications.

Chapter 5:
- Apple's ban of third party browsers and lack of support for Web Apps has clear and measurable harms for consumers.

- A universal application distribution and deployment system outside of gatekeeper control would have enormous benefits for consumers and competition

- The ban of third party browsers and lack of support for Web Apps leads to harms from reduced competition

- Consumers will ultimately suffer from a poorer quality browser on iOS, poorer quality Apps, higher prices for Apps and by Apps not existing due to cost constraints.

- Apple heavily self-preferences Native apps where they derive a profit and to their own System Apps and Functions by not providing them to third parties.

- Any intervention to Advertising must consider user privacy and choice as a priority

- OWA shares the ACCC's concerns about online tracking and transparency

- OWA believes that the proposed Social Media (Anti-Trolling) Bill 2021 is in direct conflict with the issues raised in section 5.3.1

- OWA agrees with the ACCC's assessment that App Stores contain many harmful apps and that the gatekeepers have failed to regulate this.

- Native App Ecosystems provide extensive lock-in to vendors. Developers have to acquire knowledge that is not transferable between vendors. The web does not provide any lock-in advantage to the gatekeeper as functional apps can run on all devices (except for iOS).

Chapter 6
- Although OWA only consists of engineers and not legal experts, it is our understanding that regulatory reform is required to implement current and future remedies in a timely manner without the gatekeepers being able to game the system.

Chapter 7

- OWA recommends a regulatory approach to solving digital issues in the same manner as the UK's Digital Markets Unit and the EU's Digital Markets Act.

- OWA recommends that Australia should seek as much as possible to align with other jurisdictions but should not be afraid to lead with regulation to set an example. We recommend that regulations relating to Browsers and Web Apps should be unified with other jurisdictions where appropriate.

- Regulations should apply to all major platforms and browsers that maintain a strategic position or significant market share

Chapter 8.

- OWA recommends that regulations relating to Browsers and Web Apps apply to all major operating systems and major browsers.

- All Dark Patterns related to preferencing Native Apps over Web Apps need to be removed. A minimum level of equality needs to be given to the free and open web when compared to the proprietary ecosystems of the gatekeepers.

- Data Sharing or Data Interoperability regulations should not compromise user privacy or security

- OWA would recommend security vulnerability disclosure rules for large digital platforms

9. References

iOS App Store Rule Banning Third Party Browser Engines
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Apple collected $72 billion USD in App Store fees
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iOS App Store has an 80% profit margin
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