

**From:** Bruce Lawson [REDACTED]  
**Sent:** 18 July 2022 19:07  
**To:** BrowsersAndCloud  
**Subject:** Browsers and Cloud Gaming response

I am a UK-based web developer and accessibility consultant, specialising in ensuring web sites are inclusive for people with disabilities or who experience other barriers to access—such as living in poorer nations where mobile data is comparatively expensive, networks may be slow and unreliable and people are generally accessing the web on cheap, lower-specification devices. I write in a personal capacity, and am not speaking on behalf of any clients or employers, past or present. You have my permission to publish or quote from this document, with or without attribution.

Many of my clients would like to make apps that are Progressive Web Applications. These are apps that are websites, built with long-established open technologies that work across all operating systems and devices, and enhanced to be able to work offline and have the look and feel of an application. Examples of ‘look and feel’ might be to render full-screen; to be saved with their own icon onto a device’s home screen; to integrate with the device’s underlying platform (with the user’s permission) in order to capture images from the camera; use the microphone for video conferencing; to send push notifications to the user.

The benefits of PWAs are advantageous to both the developer (and the business they work for) and the end user. Because they are based on web technology, a competent developer need only make one app that will work on iOS, Android, as well as desktop computers and tablets. This write-once approach has obvious benefits over developing a single-platform (“native”) app for iOS in addition to a single-platform app for Android and also a website. It greatly reduces costs because it greatly reduces complexity of development, testing and deploying.

The benefits to the user are that the initial download is much smaller than that for a single-platform app from an app store. When an update to the web app is pushed by a developer to the server, the user only downloads the updated pages, not the whole application. For businesses looking to reach customers in growing markets such as India, Indonesia, Nigeria and Kenya, this is a competitive advantage.

In the case of users with accessibility needs due to a disability, the web is a mature platform on which accessibility is a solved problem.

However, many businesses are not able to offer a Progressive Web App, largely due to Apple’s anti-competitive policy of requiring all browsers on iOS and iPad to use its own engine, called WebKit. Whereas Google Chrome on Mac, Windows and Android uses its own engine (called Blink), and Firefox on non-iOS/iPad platforms uses its own rendering engine (called Gecko), Apple’s policy requires Firefox and Chrome on iOS/iPad to be branded skins over WebKit.

This “Apple browser ban” has the unfortunate effect of ham-stringing Progressive Web Apps. Whereas Apple’s Safari browser allows web apps (such as Wordle) to be saved to the user’s home screen, Firefox and Chrome cannot do so—even though they all use WebKit. While single-platform iOS apps can send push notifications to the user, browsers are not permitted to. Push notifications are high on business’ priority because of how it can drive engagement. WebKit is also notably buggy and, with no competition on the iOS/iPad platform, there is little to incentivise Apple to invest more in its development.

Apple's original vision for applications on iOS was Web Apps, and today they still claim Web Apps are a viable alternative to the App Store. Apple CEO Tim Cook made a similar claim last year in Congressional testimony when he suggested the web offers a viable alternative distribution channel to the iOS App Store. They have also claimed this during a court case in Australia with Epic.

Yet Apple's own policies prevent Progressive Web Apps being a viable alternative. It's time to regulate Apple into allowing other browser engines onto iOS/iPad and giving them full access to the underlying platform—just as they currently are on Apple's MacOS, Android, Windows and Linux. Therefore, I fully support your proposal to make a reference in relation to the supply of mobile browsers and cloud gaming in the UK, the terms of reference, and urge a swift remedy:

Apple must be required to allow alternate browser engines on iOS, with access to all of the same APIs and device integrations that Safari and Native iOS have access to.

Yours,

Bruce Lawson

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