[redacted]

From: [redacted] >
Sent: [redacted]
To: Mobile Ecosystems
Subject: Feedback on interim report / Scirra Ltd

Hello CMA,

I'd like to offer my views on the situation with Apple / iOS competition, mainly regarding the web browsers. My name is Ashley Gullen and I am director of Scirra Ltd, company no. 07626452. We are a small (<10 employees) business building a browser-based game development editor Construct 3. Our website is: https://www.construct.net/
Being a web app that runs entirely in a browser, and also producing games that run exclusively on web technology, the quality of web browsers has a significant impact on the perceived quality of our product, and therefore our business.

I would like to emphasise software quality as a key concern in the browser market. In short, we have a lot of problems with Safari, and these tend to be more severe problems that take much longer to get solved, than with other browsers. This negatively affects our business as we have to spend a lot of time dealing with problems in Safari rather than improving our product, and it can in turn affect customer's view of the quality of our product, even when problems are caused by Safari. Since no other browser engines are allowed on iOS, this also means we are forced to deal with these issues and cannot offer any alternative.

Software quality is difficult to quantify. However I can offer some key examples that highlight the problems Safari causes with software quality issues.

1) Breaking major features: on multiple occasions in the past Apple have released Safari updates that broke key web browser features. This can severely affect businesses that publish web apps, causing products to completely stop working, resulting in having to make an emergency response and deal with a large number of support requests and complaints. These include:

a) iOS 11.2.2 released Jan 8th 2018 broke WebAssembly, a key web technology that some businesses including ours depended on: https://bugs.webkit.org/show_bug.cgi?id=181781
Despite issuing two subsequent updates with 11.2.5 and 11.2.6, the issue was not fixed until 11.3, released March 29, 2018. This in my view is negligence on the part of Apple and caused us serious problems having to deal with a major feature left entirely broken for about three months.

b) iOS 11.3 then broke an important message-passing feature (MessageChannel): https://bugs.webkit.org/show_bug.cgi?id=184502
This caused another breakage and was left broken until the release of iOS 12 in September - a serious problem left in place for six months, despite issuing another three updates with 11.3.1, 11.4, and 11.4.1.

c) Safari 14.1 broke an important storage feature localStorage: https://bugs.webkit.org/show_bug.cgi?id=225344
It was reported broken in May, and apparently only fixed in August, again left broken for months. Subsequently another update also broke IndexedDB, another important storage feature: https://bugs.webkit.org/show_bug.cgi?id=226547
A subsequent update in iOS 15 then had a serious privacy issue: https://safarileaks.com/

There are many other cases where this happened - this is just an illustrative selection, each causing major disruption to web developers, with no alternative available. I believe Apple can be negligent with severe bugs because they have banned other browser engines on iOS, and therefore there is no risk of users switching to other browsers to avoid these problems and so there is little pressure to improve the quality of the browser. It leaves small businesses like ours suffering as a result.

2) Delaying implementation of key features: frequently major web platform features, on which entire businesses could depend, arrive years late. For example:

a) WebGL 2, an advanced computer graphics technology, was supported in Chrome and Firefox by 2017. Safari did not add support until 15.0 in 2021 - a long four-year wait for any businesses with web content needing advanced computer graphics.

b) Support for standard open media codecs like WebM Opus and VP8 have been supported by Chrome and Firefox for many years. These are important to make it easy to publish multimedia content, ranging from videos to sound effects for games, in an interoperable way. Safari have only just begun to implement support for these, albeit with bugs, as of 15.0, but it still doesn't work correctly, with issues such as this one: https://bugs.webkit.org/show_bug.cgi?id=229799

c) Avoiding implementation of innovative new browser features such as Web MIDI, Web Bluetooth, Web USB amongst others. Startups could potentially be launched developing entire businesses or products that depend on these features. However the fact they are missing in Safari, with no alternative on iOS, could be a big enough hurdle that startups will either decide not to launch, or fail after launching. Small businesses can live and die by what browsers ship, and avoiding key features - possibly because they could compete with apps from the App Store - while banning any other browser engines that might support them, probably has a chilling effect on startups and innovation.

Again there are probably more examples, these are just a few.

3) Hobbling installed web apps, or PWAs: Safari on iOS has an "Add to homescreen" feature, which allows web apps to look and function a lot more like web apps. However this has long been a second-class citizen on iOS, suffering many serious problems and missing features that go unaddressed for years. For example using the "Add to homescreen" feature has the side-effect of wiping all storage, potentially causing a user to lose all their work: https://bugs.webkit.org/show_bug.cgi?id=181849
This issue was filed in 2018 and has not been resolved. A recent comment by a WebKit developer appears to indicate it is intentional. This could be one way Apple intentionally hobbles installed web apps in order to favour the App Store, where they make a profit from app sales.

4) Ignoring issues: sometimes issues are reported and simply are ignored, leaving developers to deal with the problem indefinitely. For example this issue was filed about 6 years ago: https://bugs.webkit.org/show_bug.cgi?id=154815
There is yet to be any resolution.

5) Poor communication: sometimes issues are marked fixed. However Apple refuse to tell anyone which version of the software will include the fix. This happens routinely, but here is one example: https://bugs.webkit.org/show_bug.cgi?id=230749 - at time of writing the issue is marked "FIXED", but the latest software version is still affected. As noted previously, Apple have in the past released several updates without fixing bugs. This increases the workload of developers as we have to manually test every update to figure out when Apple actually shipped a software update with the relevant bug fix in it.

6) Updates tied to iOS versions: part of the reason updates are slow is because Safari updates must come via iOS system updates. These take weeks to prepare and include a raft of other significant changes that are completely unrelated to the browser. However another side-effect is it becomes much more expensive to test Safari. On other devices, pre-release versions of browsers can simply be installed on the same device, such as Chrome Dev or Chrome Canary on Android. This makes it quick and easy to verify bug fixes and test upcoming changes. However since Safari is tied to the iOS version, the entire system must be updated to a pre-release version of iOS. Given this is a long and cumbersome process, it usually requires a dedicated device; separate devices must also be kept to ensure the previous and current versions of iOS that customers actually use can still be tested. Apple devices are particularly expensive, increasing the costs for businesses that need to work with them.

In short, the experience of working with web apps in Safari is much more difficult than with other browsers. There is never any possibility of switching to another browser as Apple bans other browser engines. Apple is able to act negligently when it comes to fixing serious problems, while failing to communicate anything developers might need to know. This leaves developers struggling to fix serious problems and dealing with the customer complaints they cause for long periods of time. The lack of real alternatives eliminates competitive pressure for Apple to improve their process and developers are left to deal with the consequences. A poor-quality browser may also suit their business interests, as it increases pressure for developers to just publish an app to the App Store the usual way, where Apple can make a profit off sales.

Some of these problems may be mitigated by allowing Safari to be updated via the App Store like third-party apps, on a faster release schedule independent of iOS updates. However Apple has shown little interest in doing this and again there is little reason for them to do so, or it may even be in their interest to update Safari slowly.

No software is perfect - other browsers occasionally have some of the same issues noted here. It's difficult to objectively measure software quality and demonstrate that Safari is inferior in this regard. However to those working in the field there is a clear quality difference - other browsers rarely break major features, let alone leave them broken for long periods of time; they add new features and fix problems in a timely fashion; they can have good support for PWAs; they often communicate transparently and helpfully; and they make it easy to test pre-release versions. Some of these problems are unique to Safari, while others are not necessarily unique to Safari, but are still significantly worse.

I think it would be appropriate to require Apple to allow other browser engines on iOS. This would make it quicker, easier and cheaper for companies in the UK and around the world to build quality web apps, and provide competitive pressure for Apple to improve Safari and truly develop a quality browser, which Safari could certainly be with all the smart engineers and enormous resources at their disposal.

Please let me know if you need any extra information or want clarification on any points, and thanks for your work.

Best regards,

Ashley Gullen
Director, Scirra Ltd