From: Sent: To: Subject: Noam Rosenthal 07 February 2022 13:53 Mobile Ecosystems Thoughts about mobile browsers and iOS restrictions

Hi. My name is Noam Rosenthal. I'm a seasoned browser/standard/web developer living in Israel. I've been working in the browser ecosystem since 2009.

Sharing my thoughts following this: <u>https://www.kryogenix.org/days/2022/02/07/contact-the-cma-about-the-browser-ecosystem/</u>

I've written an article in the past about device APIs and iOS browser restrictions: <u>https://www.smashingmagazine.com/2021/01/web-expose-hardware-capabilities/</u>

I feel that the situation with iOS browser restrictions are more complex than some people make them to be. As an iOS user myself, I am happy that apps on my phone cannot track my movements across web sites, and I know some of this is achieved by restricting the technology of a WebView.

"Browsing the web" is not the same as any other thing apps can do. A big difference is the chain of trust. In an app, there are two players - the OS vendor and the app vendor. They are both identified. When I browse a website inside an app, there are three players - the website, the browser and the OS. With mobile use, this can be utterly confusing, and users might expose information to the app-containing-a-browser, making it a man in the middle.

Some solutions presented to this problem are to only allow the default system browser to browse web sites and to heavily restrict in-app browsing. This addresses the issue, however, it takes away a user's capability to evaluate browsers, or to switch to a different browser if a site has a site-specific bug, without changing their default.

I believe that in order to protect users from in-app browser-as-man-in-the-middle tracking, while allowing browser engine choice, one would have to define what a "browser" exactly is. Since browsers today innovate by going beyond consensual standards and invent and implement their own specs (like the aforementioned device APIs), it's very difficult to reach a satisfying definition at this point in time.

I regret that this opinion does not include new solutions, but rather a point of view on why the current situation is the way it is.

If any regulatory institute is to impose the lifting of restrictions on mobile browser choice, I would urge them to consider that the term "web browser" is not a properly defined term, that the distinction between in-app browsing and main browsing is difficult to make, and that trying to make this distinction by a "user's default browser" restriction would restrict users' choice in evaluating browsers before making them default, in a way that would be counterproductive to lifting browser-choice restrictions.

Hope this brings value to your discussion. Noam Rosenthal