Is Online Privacy Still a Thing?

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HOW THE WEB IS WATCHING YOU

COOKIES

Cookies are stored in your browser every time you visit a website. They come in two types: **first-party cookies**, which are left by the websites you visit, and **third-party cookies**, which are left by other entities, usually advertisers who tailor the online ads you see based on the sites you visit.

Kamara, I., & Kosta, E. (2016). Do not track initiatives: Regaining the lost user control. International Data Privacy Law, 6(4). 276-290. doi: 10.1093/idpl/ipw019
Kaur, N., Azam, S., Kannoorpatti, K., Yeo, K.C., and Shanmugam, B. (2017). Browser fingerprinting as user tracking technology. 11th International Conference on Intelligent Systems and Control (ISCO). 103-111.

ZOMBIE COOKIES

Zombie cookies are stored in multiple locations, including in your browser. If the regular cookie in the browser is deleted by the user, the copy or copies from the other locations are used to re-create the browser cookie in the event that the user re-visits the site from which his or her browser received the cookie.

Kaur, N., Azam, S., Kannoorpatti, K., Yeo, K.C., and Shanmugam, B. (2017). Browser fingerprinting as user tracking technology. 11th International Conference on Intelligent Systems and Control (ISCO). 103-111.

FINGERPRINTING

When you browse the Web, your computer sends information about itself to Web servers, including but not limited to what browser and extensions you use, what fonts are on your computer, and even your IP address. This information can be condensed into a number called a **fingerprint**, which can be used to track you on the Web.

Kaur, N., Azam, S., Kannoorpatti, K., Yeo, K.C., and Shanmugam, B. (2017). Browser fingerprinting as user tracking technology. 11th International Conference on Intelligent Systems and Control (ISCO). 103-111.
West, J. (2019, June). Library privacy in an age of browser fingerprinting. Computers in Libraries, 39(5). 12-14.

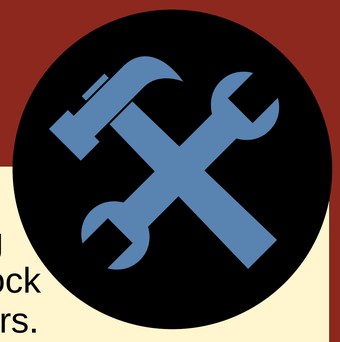
WAYS TO GET SOME PRIVACY ONLINE

PRIVATE BROWSING

Most web browsers today have a private browsing mode. It's purpose is to not record the user's Web history, therefore no cookies remain in the browser after private sessions. Some web browsers may also include other privacy features, like tracker blocking. It cannot protect you from being fingerprinted.

Afifi-Sabet, K. (2018, December 4). What is private browsing and how can it keep you safe online? IT Pro. Retrieved from https://search-proquest-com.er.lib.k-state.edu/
Kaur, N., Azam, S., Kannoorpatti, K., Yeo, K.C., and Shanmugam, B. (2017). Browser fingerprinting as user tracking technology. 11th International Conference on Intelligent Systems and Control (ISCO). 103-111.

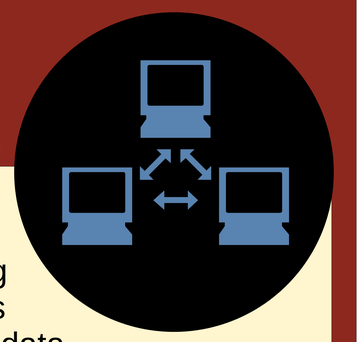
SETTINGS & EXTENSIONS



Changing your browser's privacy settings and using certain extensions can block trackers and data collectors.
The catch: these changes can make your browser easier to fingerprint. Additionally, privacy extensions are only as effective as their blacklists, or lists of known trackers/ advertisers/data collectors/et cetera.

Kaur, N., Azam, S., Kannoorpatti, K., Yeo, K.C., and Shanmugam, B. (2017). Browser fingerprinting as user tracking technology. 11th International Conference on Intelligent Systems and Control (ISCO). 103-111.

THE ONION ROUTER (TOR)



The Tor web browser uses only one configuration of settings for all users, making them anonymous, as well as 'onion routing' that encrypts data multiple times as it travels the Web. Tor also destroys browser fingerprints after each session. However, a 2019 experiment published in Forensic Science International discovered that the browser actually leaves a little bit of data in the computer after sessions, even after uninstalling the browser.

Jadoon, A.K., Iqbal, W., Amjad, M.F., Afzal, H. & Bangash, Y.A. (2019, June). Forensic analysis of Tor browser: a case study for privacy and anonymity on the web. Forensic Science International, 299. 59-73.
West, J. (2019, June). Library privacy in an age of browser fingerprinting. Computers in Libraries, 39(5). 12-14.

Symbols from Webdings, Wingdings and Wingdings 2 (MS Windows fonts).