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An Approach for Untraceable Web Browsing History and Unambiguous User Profiles

Background

The overturning of the Internet Privacy Rules by the Federal Communications Commissions (FCC) in late March 2017 allows Internet Service Providers (ISPs) to collect, share and sell their customers' web browsing data without their consent. With third-party trackers embedded in webpages, this ruling places privacy under further risk. Existing methods to help users shield their web browsing history include browser add-ons or extensions (e.g., "Ghostery," "Privacy Badger," and "HTTPS Everywhere"), Virtual Private Networks (VPN) services, Tor, and HTTPS. However, these solutions cannot prevent ISPs from collecting user web browsing history or protect against de-anonymization attacks when such information is revealed. Moreover, use of these solutions could jeopardize the quality of personalized online services since browsing data is critical for online enterprises to adapt to future user needs. These challenges highlight the need for a web browsing history anonymizer framework that balances privacy and utility.

Invention Description

Researchers at Arizona State University have developed a software tool, PBooster, that exploits publicly available information in social media networks as an auxiliary source of data to anonymize web browsing data while preserving utility. This is accomplished by automatically inferring how many links and of which types should be added to the history to balance the utility-privacy tradeoff.

Potential Applications

- Web browsers

[Related Publication \(PDF\)](#)

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