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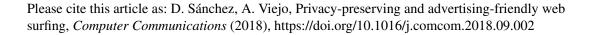
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#### ACCEPTED MANUSCRIPT

# Privacy-Preserving and Advertising-Friendly Web Surfing

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#### **Abstract**

Behavioral targeting is a technique extensively used by the adverting industry that consists on compiling the interests of the individuals that surf the web by working the web sites they visit. This targeting strategy has proven to be, by far, the most effective fo n of advertising and, nowadays, constitutes the pillar of the Internet business model, in which free content is offered to the users in exchange for showing advertisements. Nevertheless, threatening the privacy of the people by tracking them and gathering their interests and habits is not a right and, in recent years, many users have reacted by installing tools in their browsers that block all connections suspicious of being advertisements. By blocking indiscriminately and systematically, the tools protect the privacy of their users, but also hamper the online advertising business and, hence, en anger the sustainability of the 'free' Internet model. To tackle this issue, we propose a syster 'that conciliates users' privacy during web surfing and the advertising business. Specifically, our proposal an owers the user in the protection of her privacy by allowing her to define her privacy requirements that 's, which user's interests should be hidden from the advertising platforms and which ones can be is realeu. Then, our system selectively blocks or bypasses tracking on the browsed web sites according to their content and the privacy requirements. Our system is also the first that implements simulated '... vsing sessions as a privacy-preserving measure. Empirical results show that our proposal allows five grain. I and user tailored privacy protection, which is also more accurate, responsive and respectful with an elated works.

Keywords: Privacy, Web surfing, Vab. racking, User profiling, Online advertising.

#### 1. Introduction

Since 1995 the an aration of the Internet in the Society has grown dramatically and it has consolidated itself as a main platform of services that has changed the way people communicate, do business or enjoy their losure time. The entry point for any Internet user is the so-called *web surfing*; this is, navigate through the Vorld Wide Web by means of a web browser, retrieving and consuming web pages filled with into action, images, videos and other sorts of content.

As the revenues of the online advertising industry have grown greatly, their tools for targeting advertisements to the right individuals have also improved significantly. Simple targeting approaches are

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