Abstract

Web Search Engines are tools that help users find information. These search engines use the information provided by users, in terms of their search history to build their “user profiles”. Rich user profiles enable the search engines to provide better personalized search results. However, this puts the user’s privacy at risk. Apart from the risk of exposing one’s identity, there is the added disadvantage of being subjected to unsolicited advertising and potential disclosure of sensitive information. Rich user profiles contain a lot of personally identifiable information, which can attract unwarranted malicious interests. It is important that sensitive data collection be curbed or at least obfuscated at the source. To that effect this work is a novel approach towards providing a balance between privacy preservation and personalization by keeping the user in control of his privacy Vs personalization decisions. This work supports complex queries and obfuscates them by adding a set of fake queries that are semantically related to the original query where both the semantic distance and the number of fake queries are user controlled parameters.
A Novel Query Obfuscation Scheme with User Controlled Privacy and Personalization

References


Index Terms

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Information Sciences
Keywords

Private Search, Query Anonymization, User Control, Privacy, Personalization, Web Search