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Web privacy measurement in real-time bidding systems. A graph-based approach to RTB system classification

Eijk, R.J. van

Citation

Eijk, R. J. van. (2019, January 29). *Web privacy measurement in real-time bidding systems. A graph-based approach to RTB system classification*. Retrieved from <https://hdl.handle.net/1887/68261>

Version: Not Applicable (or Unknown)

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<http://hdl.handle.net/1887/68261>

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Issue Date: 2019-01-29

Web Privacy Measurement (WPM) has been established as an academic research field since 2012. WPM scholars observe websites and services to detect, characterize, and quantify privacy-impacting behaviors. The main goal of the research field is to increase transparency through measurement.

In the thesis, Robbert J. van Eijk investigates the advertisements online that seem to follow you. The technology enabling the advertisements is called Real-Time Bidding (RTB). An RTB system is defined as a network of partners enabling big data applications within the organizational field of marketing. The system aims to improve sales by real-time data-driven marketing and personalized (behavioral) advertising. The author applies network science algorithms to arrive at measuring the privacy component of RTB. In the thesis, it is shown that cluster-edge betweenness and node betweenness support us in understanding the partnerships of the ad-technology companies. From our research it transpires that the interconnection between partners in an RTB network is caused by the data flows of the companies themselves due to their specializations in ad technology. Furthermore, the author provides that a Graph-Based Methodological Approach (GBMA) controls the situation of differences in consent implementations in European countries. The GBMA is tested on a dataset of national and regional European news websites.

This is a volume in the series of the Meijers Research Institute and Graduate School of the Leiden Law School of Leiden University. This study is part of the Law School's research programme 'Effective Protection of Fundamental Rights in a pluralist world'.



Web Privacy Measurement in Real-Time Bidding Systems

*A Graph-Based Approach
to RTB system classification*

R.J.W. VAN EIJK