


[Home](#) > [Journal](#) > [Business & Economics](#) | [Computer Science & Communications](#) > IIM

[Indexing](#) [View Papers](#) [Aims & Scope](#) [Editorial Board](#) [Guideline](#) [Article Processing Charges](#)

IIM > Vol.2 No.2, February 2010

OPEN ACCESS

Sensing Semantics of RSS Feeds by Fuzzy Matchmaking

PDF (Size: 1248KB) PP. 110-119 DOI: 10.4236/iim.2010.22014

Author(s)

M.W. Yuan, P. Jiang, J. Zhu, X.N. Wang

ABSTRACT

RSS feeds provide a fast and effective way to publish up-to-date information or renew outdated contents for information subscribers. So far RSS information is mostly managed by content publishers but Internet users have less initiative to choose what they really need. More attention needs to be paid on techniques for user-initiative information discovery from RSS feeds. In this paper, a quantitative semantic matchmaking method for the RSS based applications is proposed. Semantic information is extracted from an RSS feed as numerical vectors and semantic matching can then be conducted quantitatively. Ontology is applied to provide a common-agreed matching basis for the quantitative matchmaking. In order to avoid semantic ambiguity of literal statements from distributed and heterogeneous RSS publishers, fuzzy inference is used to transform an individual-dependent vector into an individual-independent vector. Semantic similarities can be revealed as the result.

KEYWORDS

RSS Feeds, Matchmaking, Multi-Agent, Semantics

Cite this paper

 M. Yuan, P. Jiang, J. Zhu and X. Wang, "Sensing Semantics of RSS Feeds by Fuzzy Matchmaking," *Intelligent Information Management*, Vol. 2 No. 2, 2010, pp. 110-119. doi: 10.4236/iim.2010.22014.

References

- [1] J. Grossnickle, T. Board, B. Pickens, and M. Belmont, "RSS-crossing into the mainstream," October 2005. [http:// publisher.yahoo.com/rss/RSS_whitePaper1004.pdf](http://publisher.yahoo.com/rss/RSS_whitePaper1004.pdf).
- [2] D. Kuokka and L. Harada, "Integrating information via matchmaking," *Journal of Intelligent Information Systems*, Kluwer Academic Publishers, Vol. 6, pp. 261– 279, 1996.
- [3] K. Kurbel and I. Loutchko, "A model for multi-lateral negotiations on an agent-based marketplace for personnel acquisition," *Electronic Commerce Research and Applications*, Vol. 4, No. 3, pp. 187– 203, 2005.
- [4] R. Hishiyama and T. Ishida, "Modeling e-procurement as co-adaptive matchmaking with mutual relevance feedback," M. Barley and N. K. Kasabov (Eds.): *Intelligent Agents and Multi-Agent Systems*, the 7th Pacific Rim International Workshop on Multi-Agents (PRIMA' 04), Auckland, New Zealand, pp. 67– 80, 2004.
- [5] D. Trastour, C. Bartolini, and C. Preist, "Semantic web support for the business-to-business e-commerce pre- contractual lifecycle," *Computer Networks*, Vol. 42, pp. 661– 673, 2003.
- [6] J. Kopena and W. C. Regli, "DAMLJessKB: A tool for reasoning with the semantic web," *IEEE Intelligent Systems*, Vol. 18, pp. 74– 77, 2003.
- [7] S. A. Ludwig and S. M. S. Reyhani, "Introduction of semantic matchmaking to grid computing," *Journal of Parallel and Distributed Computing*, Vol. 65, pp. 1533– 1541, 2005.
- [8] D. Sandler, A. Mislove, A. Post, and P. Druschel, "Feedtree: Sharing web micronews with peer-to-peer event notification," In *Proceedings of the 4th International Workshop on Peer-to-Peer Systems (IPTPS' 05)*, Ithaca, NY, USA, pp. 141– 151, 2005.

- [Open Special Issues](#)
- [Published Special Issues](#)
- [Special Issues Guideline](#)

[IIM Subscription](#)
[Most popular papers in IIM](#)
[About IIM News](#)
[Frequently Asked Questions](#)
[Recommend to Peers](#)
[Recommend to Library](#)
[Contact Us](#)

Downloads:	144,103
------------	---------

Visits:	350,951
---------	---------

[Sponsors >>](#)

- [9] B. Hammersley, "Content syndication with RSS," O' Reilly, ISBN: 0-596-00383-8, 2003.
- [10] E. Jung, "UniRSS: A new RSS framework supporting dynamic plug-in of RSS extension modules," In Proceedings of the 1st Aisan Semantic Web Conference (ASWC' 06), Beijing, China, pp. 169– 178, 2006.
- [11] K. Wegrzyn-Wolska and P. S. Szczepaniak, "Classification of RSS-formatted documents using full text similarity measures," In Proceedings of the 5th International Conference on Web Engineering (ICWE' 05), Sydney, Australia, pp. 400– 405, 2005.
- [12] P. S. Szczepaniak and A. Niewiadomski, "Clustering of documents on the basis of text fuzzy similarity," Abramowicz W. (Eds.): Knowledge-based Information Retrieval and Filtering from the Web, pp. 219– 230, Kluwer Academic Publishers, 2003.
- [13] N. Cancedda, E. Gaussier, C. Goutte, and J. Renders, "Word-sequence kernels," Journal of Machine Learning Research, 3, pp. 1059– 1082, 2003.
- [14] H. Lodhi, N. Cristianini, J. Shave-Taylor, and C. Watkins, "Text classification using string kernel," Advances in Neural Information Processing System, Vol. 13, pp. 563– 569, 2001.
- [15] G. Salton and M. J. McGill, "Introduction to modern information retrieval," McGraw-Hill, New York, 1983.
- [16] J. J. Sampera, P. A. Castillob, L. Araujoc, J. J. Merelob, O. Cordon, and F. Tricas, "NectaRSS, an intelligent RSS feed reader," Journal of Networks and Computer Applications, Vol. 31, pp. 793– 806, 2008.
- [17] R. Prabowo and M. Thelwall, "A comparison of feature selection methods for an evolving RSS feed corpus," Information Processing and Management, Vol. 42, pp. 1491– 1512, 2006.
- [18] N. S. Glance, M. Hurst, and T. Tomokiyo, "BlogPulse: Automated trend discovery for weblogs," In Proceedings of the 13th International WWW Conference: Workshop on Weblogging Ecosystem: Aggregation, Analysis and Dynamics, New York, USA, pp.1– 8, 2004.
- [19] Y. Yang and J. O. Pedersen, "A comparative study on feature selection in text categorization," In Proceedings of the Fourteenth International Conference on Machine Learning (ICML' 97), San Francisco, USA, pp. 412– 420, 1997.
- [20] T. Berners-Lee, "Semantic web road map," 1998. [http:// www.w3.org/DesignIssues/Semantic.html](http://www.w3.org/DesignIssues/Semantic.html).
- [21] X. Ning, H. Jin and H. Wu, "RSS: A framework enabling ranked search on the semantic web," Information Processing and Management, Vol. 44, pp. 893– 909, 2008.
- [22] S. Avancha, A. Joshi, and T. Finin, "Enhanced service discovery in Bluetooth," Communications, pp. 96– 99, 2002.
- [23] S. A. Ludwig and S. M. S. Reyhani, "Semantic approach to service discovery in a grid environment," Journal of Web Semantics, Vol. 4, pp.1– 13, 2006.
- [24] S. Colucci, T. D. Noia, and E. D. Sciascio, F. M. Donini, M. Mongiello, "Concept abduction and contraction for semantic-based discovery of matches and negotiation spaces in an E-marketplace," Electronic Commerce Research and Applications, Vol. 4, pp. 345– 361, 2005.
- [25] G. Stoilos, G. Stamou, V. Tzouvaras, J. Z. Pan, and I. Horrocks, "The fuzzy description logic f-SHIN," International Workshop on Uncertainty Reasoning For the Semantic Web, 2005.
- [26] J. Z. Pan, G. Stoilos, G. B. Stamou, V. Tzouvaras, and I. Horrocks, "f-SWRL: A fuzzy extension of SWRL," Journal on Data Semantics, Vol. 6, pp. 28– 46, 2006.
- [27] P. Jiang, Q. Mair, and Z. Feng, "Agent alliance formation using ART-networks as agent belief models," Journal of Intelligent Manufacturing, Vol. 18, pp. 433– 448, 2007.
- [28] ISO, "Application protocol: Configuration controlled design," IS 10303 – Part 203, 1994.
- [29] P. Jiang, Q. Mair, and J. Newman, "The application of UML to the design of processes supporting product configuration management," International Journal of Computer Integrated Manufacturing, Vol. 19, pp. 393– 407, 2006.
- [30] K. P. Sycara, M. Klusch, S. Widoff, and J. Lu, "Dynamic service matchmaking among agents in open

information environments," ACM SIGMOD Record (ACM Special Interests Group on Management of Data), Vol. 28, pp. 47– 53, 1999.

- [31] J. Akoka and I. Comyn-Wattiau, " Entity-relationship and object-oriented model automatic clustering," Data and Knowledge Engineering, Vol. 20, pp. 87– 117, 1996.
- [32] J. Williams and N. Steele, " Difference, distance and similarity as a basis for fuzzy decision support based on prototypical decision classes," Fuzzy Sets and Systems, Vol. 131, pp. 35– 46, 2002.
- [33] L. A. Zadeh, " Fuzzy sets," Information and Control, Vol. 8, pp. 338– 353, 1965.