

Linking Data In and Outside a Scientific Publishing House

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ABSTRACT

Publishing has undergone many changes since the 1960's, often driven by rapid technological development. Technology impacts the creation and dissemination of knowledge only to a certain extent, and in this talk I'll try to give a publisher's perspective of some technological drivers impacting Academic publishing today, and how the many actors involved are learning to cooperate as well as compete in an increasingly distributed environment to better turn information into knowledge. Technically, organizationally, and with regard to shared standards and infrastructure.

Publishing has been called many different things by many different people. A simple definition could be that publishing is 'organizing content', so the focus of this talk will be on Elsevier's current use of Linked Data & Semantic technology in organizing scientific content, including some early lessons learned.

This view from a publisher aims to help the discussion on how we can all contribute to better disseminate and promote the enormous creativity made through core research contributions.

Categories and Subject Descriptors

E.1 Data Structure; E.2 Data Storage Representations; G.0 General; H.1.2 User/Machine Systems; H.3 Information Storage and Retrieval; H.4.1 Office Automation; H.5 Information Interfaces and Presentation; I.7 Document and Text Processing; I.2.1 Applications and Expert Systems; I.2.7 Natural Language Processing; I.4.9 Applications; J. Computer Applications; K.3.1 Computer Uses in Education; K.4 Computers and Society; K.5 Legal Aspects of Computing; K.6 Management of Computing and Information Systems

Keywords

Electronic publishing, knowledge management, Linking Data , Academic , Ecosystem

1. ACKNOWLEDGMENTS

Our thanks to everyone who helps build a better system – fortunately there still are way too many to thank individually.

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WWW 2013 Companion, May 13–17, 2013, Rio de Janeiro, Brazil.
ACM 978-1-4503-2038-2/13/05.

2. REFERENCES

- [1] Frank van Harmelen. 2011. Keynote: 10 years of semantic web research: searching for universal patterns. In *Proceedings of the 10th international conference on The semantic web - Volume Part II (ISWC'11)*, Lora Aroyo, Chris Welty, Harith Alani, Jamie Taylor, and Abraham Bernstein (Eds.), Vol. Part II. Springer-Verlag, Berlin, Heidelberg, 389-389.
- [2] Sean Bechhofer, Iain Buchan, David De Roure, Paolo Missier, John Ainsworth, Jiten Bhagat, Philip Couch, Don Cruickshank, Mark Delderfield, Ian Dunlop, Matthew Gamble, Danus Michaelides, Stuart Owen, David Newman, Shoab Sufi, Carole Goble. Why linked data is not enough for scientists. *Future Generation Computer Systems*, Volume 29, Issue 2, February 2013, Pages 599–611. DOI=<http://dx.doi.org/10.1016/j.future.2011.08.004>
- [3] Anita de Waard. 2010. From Proteins to Fairytales: Directions in Semantic Publishing. *IEEE Intelligent Systems* 25, 2 (March 2010), 83-88. DOI=<http://dx.doi.org/10.1109/MIS.2010.49>
- [4] Christian Bizer and Diana Maynard. 2012. Editorial: The Semantic Web Challenge, 2011. *Web Semantics*. 16 (November 2012), 32-. DOI=<http://dx.doi.org/10.1016/j.websem.2012.09.004>
- [5] Clement Jonquet, Paea Lependu, Sean Falconer, Adrien Coulet, Natalya F. Noy, Mark A. Musen, and Nigam H. Shah. 2011. NCBO Resource Index: Ontology-based search and mining of biomedical resources. *Web Semantics*. 9, 3 (September 2011), 316-324. DOI=<http://dx.doi.org/10.1016/j.websem.2011.06.005>
- [6] Li Ding, Timothy Lebo, John S. Erickson, Dominic Difranzo, Gregory Todd Williams, Xian Li, James Michaelis, Alvaro Graves, Jin Guang Zheng, Zhenning Shangquan, Johanna Flores, Deborah L. Mcguinness, and James A. Hendler. 2011. TWC LOGD: A portal for linked open government data ecosystems. *Web Semantics*. 9, 3 (September 2011), 325-333. DOI=<http://dx.doi.org/10.1016/j.websem.2011.06.002>
- [7] Lorella Pasquinucci, Orazio Prezzavento, Agostino Marrazzo, Emanuele Amata, Simone Ronsisvalle, Zafiroula Georgoussi, Danai-Dionysia Fourla, Giovanna M. Scoto, Carmela Parenti, Giuseppina Aricò, Giuseppe Ronsisvalle. Evaluation of N-substitution in 6,7-benzomorphan compounds. *Bioorganic & Medicinal Chemistry*, Volume 18, Issue 14, July 2010, Pages 4975–4982 DOI=<http://dx.doi.org/10.1016/j.bmc.2010.06.005>
- [8] Piotr Nowakowski, Eryk Ciepiela, Daniel Hareźlak, Joanna Kocot, Marek Kasztelnik, Tomasz Bartyński, Jan Meizner,

- Grzegorz Dyk, Maciej Malawski. The Collage Authoring Environment. *Procedia Computer Science*, Volume 4, 2011, Pages 608–617. DOI = <http://dx.doi.org/10.1016/j.procs.2011.04.064>
- [9] Pieter Van Gorp, Steffen Mazanek. SHARE: a web portal for creating and sharing executable research papers. *Procedia Computer Science*, Volume 4, 2011, Pages 589–597. <http://dx.doi.org/10.1016/j.procs.2011.04.062>
- [10] Matan Gavish, David Donoho. A Universal Identifier for Computational Results. *Procedia Computer Science*, Volume 4, 2011, Pages 637–647. DOI = <http://dx.doi.org/10.1016/j.procs.2011.04.067>
- [11] Shenghui Wang and Paul Groth. 2010. Measuring the dynamic bi-directional influence between content and social networks. In Proceedings of the 9th international semantic web conference on The semantic web - Volume Part I (ISWC'10), Peter F. Patel-Schneider, Yue Pan, Pascal Hitzler, Peter Mika, and Lei Zhang (Eds.), LNCS VOL 6496, Springer-Verlag, Berlin, Heidelberg, 814-829.
- [12] Matthias Samwald, Adrien Coulet, Iker Huerga, Robert L Powers, Joanne S Luciano, Robert R Freimuth, Frederick Whipple, Elgar Pichler, Eric Prud'hommeaux, Michel Dumontier & M Scott Marshall. Semantically enabling pharmacogenomic data for the realization of personalized medicine. *Pharmacogenomics*, January 2012, Vol. 13, No. 2, Pages 201-212. DOI= <http://dx.doi.org/10.2217/pgs.11.179>
- [13] Peter F Patel-Schneider, Yue Pan, Pascal Hitzler, Peter Mika, Lei E Zhang, Jeff Z Pan, Ian Horrocks, Birte Glimm, Ontology Alignment for Linked Open Data, *The Semantic Web – ISWC 2010 , Lecture Notes in Computer Science Vol 6496*, Springer Berlin Heidelberg, Doi = http://dx.doi.org/10.1007/978-3-642-17746-0_26
- [14] Moshe Y. Vardi. 2013. To boycott or not to boycott. *Commun. ACM* 56, 3 (March 2013), 5-5. DOI=10.1145/2428556.2428557 <http://doi.acm.org/10.1145/2428556.2428557>