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Abstract

The increase number of manuscripts and their diversity add the difficulty of searching and arranging for relevant manuscripts. The quality of search results provided by search engines has not been maximized in response to user requests because it does not involve semantic elements in the search process. It is necessary to build a information retrieval system for manuscript that makes it easier for researchers finding the title of the manuscript accordance with the topic of their research.

Information retrieval system for manuscript is built using semantic web. Manuscript data used in this research are Indonesian manuscript. Stages build system include data crawler process, build ontologies, NLP process, SPARQL query representation process and indexing process.

Information retrieval system for Indonesian manuscript can display the title and link of manuscript based on the search sentence entered. Tests are conducted on 3 types of search sentences with recall and precision methods. The recall value indicates that the owned

manuscripts are returned 93.3% by information retrieval system. The precision value indicates that the results are returned 100% relevant by information retrieval system.

References

1. Antoniou, G. and Harmelen, F. V. 2008. *A Semantic Web Primer Second Edition*. MIT Press. Cambridge.
2. Lijun, T. 2011. *The Study of Semantic Retrieval Based on The Ontologi of Teaching Management*, *Advanced in Control Engineering and Information Science*. *Procedia Engineering* 15, 1555-1559.
3. Castells, P., Fernández, M. and Vallet, D. 2007. An adaptation of the vector-space model for ontologi-based information retrieval. *IEEETrans.Knowl.DataEng.*19, 261–272.
4. Kara, S., Alan, O., Sabuncu, O., Akpınar, S., Cicekli, N. K. and Alpaslan, F. N. 2012. An Ontologi-Based Retrieval System Using Semantic Indexing. *Information System* 37, 294-305.
5. Jeffrey, B. 2008. *The Weakness of Full-Text Searching*. *The Journal of Academic Librarianship*, September 2008, 438-444.
6. Faisal, R. 2009. *Penerapan Algoritma Weighted Tree Similarity Untuk Pencarian Semantik Wikipedia*. Master Thesis of Informatics Department. Surabaya.
7. Thangaraj, M and Sujatha, G. 2014. An architectural design for effective information retrieval in semantic web. *Expert Systems with Applications* 41 (2014), 8225–8233.
8. Jing, J. 2006. *Similarity of Weighted Directed Acyclic Graph*, New Brunswick : University of New Brunswik, Master Thesis..
9. Lee, J. 2014. Effective ranking and search techniques for Web resources considering semantic relationships. *Information Processing and Management* 50 (2014), 132–155.
10. Handayani, P. W., Wiryana, I. M. and Milde, J. 2008. *Mesin Pencari Berbasis Semantik Bahasa Indonesia*, *Information System Journal MTI-UI*, Volume 4, Number 2, ISBN 1412-8896.
11. Shestakov, D., 2013. *Intelligent Web Crawling*. Department of Media Technology. Aslto University. Finland.
12. Suteja, B. R. and Ashari, A. 2008. *Ontologi e-Learning Content berbasis Web Semantik*. SNATI 2008. Yogyakarta.
13. Noy, N.F. and McGuinness, D.L. 2001, *Ontology Development 101: A Guide to Creating Your First Ontology*. Stanford University.
14. Pustejovsky, J. 2012. *Natural Language Annotation for Machine Learning*. O'Reilly. Beijing.
15. Yadagiri, N. and Ramesh, P. 2013. *Semantic Web and The Libraries: An Overview*. *International Journal of Library Science*

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Keywords

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