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Abstract

In the latest years many different models for semi structured data have been proposed; most of them, however, are too specific to allow immediate comparison with other models, and do not easily support incremental model design. A number of features which can be considered interesting for a semi structured data model are listed. E. g. we review the more widely used models in Conceptual Modeling for Information Systems (Entity-Relationship and UML), and argue that they do not support effectively modeling of semi structured data. As a consequence, structured and semi structured data cannot be treated in an integrated, holistic way during requirements specification. Research about similarity between semi structured documents (particularly for XML documents) has produced many works in the areas of Database Systems, Artificial Intelligence and Data Mining. In this work introducing a brief survey about it. At first introducing some basic properties. After that, some works are reviewed, highlighting their particularities and general approach. Concluding with a comparison of these works, analyzing their benefits and problems.

References

- S. Abiteboul, P. Buneman, and D. Suciu, "Data on the Web: From Relations to Semi structured Data and XML", Morgan Kaufman, 1999.
- Jason McHugh,SergeAbiteboul, Roy Goldman, Dallas Quass, Jennifer Widom"Lore: a database management system for semi structured data", Vol. 26 , Issue 3, PP: 54 - 66, 1997
- Badia, A. ; "Conceptual modeling for semi structured data", In Proc. of the Third International Conference on Web Information Systems Engineering, PP: 170 – 177, 2002.
- M. Mani. "EReX: A Conceptual Model for XML", In Proc. of the Second International XML Database Symposium, PP 128-142, 2004.
- G. Psaila, "ERX: A Conceptual Model for XML Documents", In Proc. of the ACM Symposium on Applied Computing, PP: 898-903, 2000.
- A. Sengupta, S. Mohan, R. Doshi, "XER - Extensible Entity Relationship Modeling", In Proc. of the XML 2003 Conference, PP: 140-154, 2003.
- Martin Necasky, "XSEM: a conceptual model for XML", In Proc. of 4th ACM International Asia-Pacific conference on Conceptual Modeling, Vol. 67, PP: 37 - 48, 2007.
- Bernadette FariasLósio, Ana Carolina Salgado, Luciano do RêgoGalvÐo, "Conceptual modeling of XML schemas", In Proc. of the 5th ACM International Workshop on Web Information and Data Management, PP: 102 – 105, 2003.
- HongXing Liu, YanSheng Lu, Qing Yang, "XML conceptual modeling with XUML", In Proc. of the 28th International Conference On Software Engineering, PP: 973 – 976, 2006.
- Carlo Combi, Barbara Oliboni, "Conceptual modeling of XML data", In Proc. of the ACM Symposium On Applied Computing, PP: 467 – 473, 2006.
- Xiaoying Wu; Tok Wang Ling; Mong Li Lee; Dobbie, G. ; "Designing semi structured databases using ORA-SS model", In Proc. of the 2nd International Conference on Web
- Rainer Conrad, Dieter Scheffner, J. Christoph Freytag, "XML International Conference On Conceptual Modeling", PP: 558-574, 2000.
- Necasky, M. (2006), "Conceptual Modeling for XML: A Survey", Tech. Report No. 2006-3, Dep. of Software Engineering, Faculty of Mathematics and Physics, Charles University, Prague, 2006.
- Choudhury S. , Chaki N. , Bhattacharya S. , "GDM: A New Graph Based Data Model Using Functional Abstraction", Journal of Computer Science and Technology, Vol. 21, Issue 3, PP: 430 – 438, 2006.
- Sarkar A. , Choudhury S. , Chaki N. and Bhattacharya S. , "Conceptual Level Design of Object Oriented Data Warehouse: Graph Semantic Based Model", International Journal of Computer Science (INFOCOMP), Vol. 8, Issue 4, PP: 60 – 70, 2009.
- ÁkosLédeczi, Arpad Bakay, MiklosMaroti, Peter Volgyesi, Greg Nordstrom, Jonathan Sprinkle, and GáborKarsai, "Composing Domain-Specific Design Environments," IEEE Computer, November 2001, pp. 44-51.
- AnirbanSarkar, SesaSingha Roy, "Graph Semantic Based Conceptual Model of Semi-structured Data: An Object Oriented Approach", 11th International Conference on Software Engineering Research and Practice (SERP 11, WORLDCOMP 2011), Vol. 1, PP 24 – 30, Las Vegas, USA, July 18 – 21, 2011.
- AnirbanSarkar, "Conceptual Level Design of Semi-structured Database System:

Graph-semantic Based Approach", International Journal of Advanced Computer Science and Applications, The SAI Pubs. , New York, USA, Vol. 2, Issue 10, PP 112 – 121, November, 2011. [ISSN: 2156-5570(Online) & ISSN : 2158-107X(Print)]

- Escalona, M. J. , Mejías, M. , Torres, J. (2002). "Methodologies to develop Web Information Systems and Comparative Analysis". Informatik/Informatique. núm. 2/2002 de I/I.
- Ferreira, M. J. , Loucopoulos, P. (2001). "Organisation of Analysis Patterns for effective Re-use. Proceedings "of the International Conference on Enterprise Information Systems. ICEIS 2001. Setubal, Portugal.
- Lowe, D. , Hall, W. (1999). Hypermedia and the Web. An Engineering approach. John Wiley & Son.
- Olsina, L. (1999). "Metodología Cualitativa para la Evaluación y Comparación de la Calidad de SitiosWeb. " Ph. Tesis. Facultad de Ciencias Exactas. Universidad de la Pampa. Argentina.
- T. W. Ling. A normal form for sets of not-necessarily normalized relations. In Proceedings of the 22nd Hawaii International Conference on System Sciences, pp. 578-586. United States: IEEE Computer Society Press, 1989.
- T. W. Ling and L. L. Yan. NF-NR: A Practical Normal Form for Nested Relations. Journal of Systems Integration. Vol4, 1994, pp309-340
- American Society for Quality. The History of Quality. ASQ Press. Milwaukee, WI. Dec. 2006.
- Hillmer, Steve; Kocabasoglu, Canan. Improving Quality and Productivity. Quality management Journal. Volume 14,number 1. January 2007.

Index Terms

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Keywords

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