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Preface

Information integration has been a long standing challenge for the database community. The investigation of this problem in the last two decades has led to a great piece of fundamental theory together with many pragmatic work concerned with implementation and testing of a variety of information integration systems, as well as the development of applications in several areas. However, nowadays, under the driving force of new application areas and Internet, there is a need for leveraging traditional integration techniques in order to tackle new challenges such as on-the-fly or web-scale integration in open and highly dynamic information spaces.

DISWeb'06 is the fifth workshop in a successful series of annual workshops on Data Integration and the Semantic Web, which have been held in conjunction with the International Conference on Advanced Information Systems Engineering (CAISE). DISWeb'06 aims at continuing the tradition of the previous four workshops workshops (http://www.informatik.uni-trier.de/~ley/db/conf/diweb/index.html), in fostering the debate on new issues and research directions in the information integration and the semantic web.

This year, the selected papers focus on XML data sources integration, schema mapping, service oriented architecture, federated warehouses and semantic web portals.

The paper *Information Sharing for the Semantic Web - a Schema Transformation Approach,* by Lucas Zamboulis and Alexandra Poulovassilis, describes a framework for transforming and integrating heterogeneous XML data sources, making use of RDFS ontologies as a `semantic bridge'. The contribution of this research is an XML-specific approach to the automatic transformation and integration of XML data.

The paper *A Tool for Semi-Automated Semantic Schema Mapping: Design and Implementation,* by Dimitris Manakanatas and Dimitris Plexousakis, presents a hybrid semantic schema mapping approach that enables to semi-automatically discover mappings between various kinds of schemas (relational, XML, OWL). The proposed schema mapping algorithm exploits the WordNet Lexical Database as well as already identified matchings in order to minimize the total time spent on manual matching increasing, at the same time, the amount and quality of the output results.

The paper *Inter Model Data Exchange of Type Information via a Common Type Hierarch,* by Andrew Smith and Peter McBrien, deals with the problem of data exchange between heterogeneous schemas. It describes a method for exchanging type information by use of a common type hierarchy. The method relies on converting the types from the source into a common type hierarchy capable of representing types from any data source, and from there into types from the target schema. The proposed approach has been implemented in the AutoMed data integration and exchange system.

The paper *User Profile Interchange in a Service-oriented Architecture,* by Daniela Leal Musa, Renata de Matos Galante, Mariusa Warpechowski and José P. Moreira de Oliveira, presents an approach for sharing learners' profile information among e-learning systems. It describes a standard communication protocol and architecture that enables different e-learning systems to cooperate in order to gather a set of learner model information, richer than that found in a standalone e-learning system.

The paper *Integrated vision of federated data warehouses,* by Michel Schneider, investigates integration problems in the setting of federated warehouses. It describes a process to build an integrated vision of a federated data warehouses based on a generic model that is used to describe the largest common schema between a set of data warehouses. An implementation of the proposed approach using the relational data model is described.

Last but not least, the paper *An Architecture for a Semantic Portal*, by Gerald Reif and Harald Gall, presents an architecture of a Semantic Portal that provides a unique front-end to the information and functionalities of individual Semantic Web applications. The paper built upon the architecture implemented in the context of the WEESA (Web Engineering for Semantic web Applications) project to semantically annotate Web applications and provide the annotations in a knowledge base (KB) for download and querying. In addition, the functionality of the Web application is described with Semantic markup as a Semantic Web Service. In this way the Semantic Portal can provide database like queries and a common interface to the services of individual Semantic Web applications.

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