1. Record Nr. UNISA996465902503316

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Titolo	Model-Checking Based Data Retrieval [[electronic resource]] : An Application to Semistructured and Temporal Data / / by Elisa Quintarelli
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2004
ISBN	1-280-30686-6 9786610306862 3-540-24603-7
Edizione	[1st ed. 2004.]
Descrizione fisica	1 online resource (XVII, 135 p.)
Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 2917
Disciplina	025.04
Soggetti	Data structures (Computer science) Database management Information storage and retrieval Application software Information technology Business—Data processing Data Structures and Information Theory Database Management Information Storage and Retrieval Information Systems Applications (incl. Internet) IT in Business
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	1. Introduction -- 2. Semantics Based on Bisimulation -- 3. Model-Checking Based Data Retrieval -- 4. Temporal Aspects of Semistructured Data -- 5. Related Works -- 6. Conclusion.
Sommario/riassunto	This thesis deals with the problems of characterizing the semantics of and assuring efficient execution for database query languages, where the database contains semistructured and time-varying information. This area of technology is of much interest and significance for databases and knowledge bases; it also presents many challenging research problems deserving an in-depth investigation.Thus, the topic

of Elisa Quintarelli's dissertation is well chosen and totally appropriate to the current research trends. In her thesis, Elisa addresses a number of related problems. However, her work and contributions concentrate on two main problems. The first is the definition of an effective graph-based approach to the formalization of query languages for semistructured and temporal information. In her approach, query execution is viewed as the process of matching the query graph with the database instance graph; therefore, query execution reduces to searching the database for subgraphs that are similar to the given query graph. The search for such matches can be supported through the computational process of biosimulation. This approach is used to de?ne the semantics of several languages, including graphical languages, such as G-Log and GraphLog, semistructured information languages, such as Lorel, and temporal languages, such as TSS-QL. Both graph-based approaches and biosimulation had been used by previous authors for defining query languages and their semantics; however, this work goes well beyond previous approaches by integrating and refining these techniques into a flexible and powerful paradigm that Elisa demonstrates to be effective on a spectrum of languages and a suite of alt- native semantics.