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Collana	ACM Conferences
Disciplina	005.453
Soggetti	Compilers (Computer programs) Code generators
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Autore	Guting Ralf Hartmut <1955->
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Edizione	[1st edition]
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Collana	Morgan Kaufmann series in data management systems
Altri autori (Persone)	SchneiderMarkus
Disciplina	005.74
Soggetti	Computer animation Computer simulation Database management Space and time - Data processing Visualization - Data processing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Contents; front cover; copyright; table of contents; front matter; Foreword; Preface; body; 1. Introduction; 1.1 Database Management Systems; 1.2 Spatial Databases; 1.3 Temporal Databases; 1.4 Moving Objects; 1.5 Further Exercises; 1.6 Bibliographic Notes; 2. Spatio-Temporal Databased in the Past; 2.1 Spatio-Bitemporal Objects; 2.2 An Event-Based Approach; 2.3 Further Exercises; 2.4 Bibliographic Notes; 3. Modeling and Querying Current Movement; 3.1 Location Management; 3.2 MOST- A Data Model for Current and Future Movement; 3.3 FTL-A Query Language Based on Future Temporal Logic 3.4 Location Updates- Balancing Update Cost and Imprecision 3.5 The Uncertainty of the Trajectory of a Moving Object; 3.6 Further Exercises; 3.7 Bibliographic Notes; 4. Modeling and Querying History of Movement; 4.1 An Approach Based on Abstract Data Types; 4.2 An Abstract Model; 4.3 A Discrete Model; 4.4 Spatio-Temporal Predicates and Developments; 4.5 Further Exercises; 4.6 Bibliographic Notes; 5. Data Structures and Algorithms for Moving Objects Types; 5.1 Data Structures; 5.2 Algorithms for Operations on Temporal Data Types; 5.3

Algorithms for Lifted Operations; 5.4 Further Exercises
5.5 Bibliographic Notes 6. The Constraint Database Approach; 6.1 An Abstract Model: Infinite Relations; 6.2 A Discrete Model: Constraint Relations; 6.3 Implementation of the Constraint Model; 6.4 Further Exercises; 6.5 Bibliographic Notes; 7. Spatio-Temporal Indexing; 7.1 Geometric Preliminaries; 7.2 Requirements for Indexing Moving Objects; 7.3 Indexing Current and Near-Future Movement; 7.4 Indexing Trajectories (History of Movement); 7.5 Further Exercises; 7.6 Bibliographic Notes; 8. Outlook; 81. Data Capture; 8.2 Generating Text Data; 8.3 Movement in Networks
8.4 Query Processing for Continuous/Location-Based Queries 8.5 Aggregation and Selectivity Estimation; Solutions to Exercises in the Text; Chapter 1; Chapter 2; Chapter 3; Chapter 4; Chapter 5; Chapter 6; Chapter 7; back matter; Bibliography; Citation Index; Index; About the Authors

Sommario/riassunto

The current trends in consumer electronics--including the use of GPS-equipped PDAs, phones, and vehicles, as well as the RFID-tag tracking and sensor networks--require the database support of a specific flavor of spatio-temporal databases. These we call Moving Objects Databases. Why do you need this book? With current systems, most data management professionals are not able to smoothly integrate spatio-temporal data from moving objects, making data from, say, the path of a hurricane very difficult to model, design, and query. Whether your field is geology, national security, urban