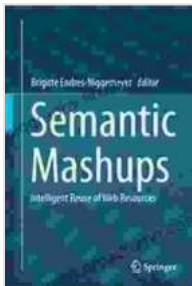


Semantic Mashups: Intelligent Reuse of Web Resources

In the vast ocean of data that surrounds us, unlocking its potential can be a formidable challenge. Semantic mashups offer a powerful solution, empowering us to transform unstructured data into actionable insights.



Semantic Mashups: Intelligent Reuse of Web Resources

★★★★★ 5 out of 5

Language : English
File size : 14225 KB
Text-to-Speech : Enabled
Screen Reader : Supported
Enhanced typesetting : Enabled
Print length : 394 pages



This comprehensive guide, "Semantic Mashups: Intelligent Reuse of Web Resources," provides a roadmap for navigating the world of data integration and knowledge extraction. With expert guidance, you'll delve into the techniques and strategies for harnessing the power of web resources to create intelligent data-driven applications.

Key Concepts and Technologies

The book lays a solid foundation in the fundamental concepts of semantic mashups, including:

- **Resource Description Framework (RDF):** The cornerstone of semantic mashups, allowing for the representation and exchange of data in a structured and machine-readable format.
- **Ontology:** A formal representation of knowledge that defines the concepts and relationships within a domain.
- **SPARQL:** A query language specifically designed for RDF data, enabling the retrieval of information based on specific patterns and relationships.

Data Integration and Mashup Techniques

The heart of the book explores the practical aspects of data integration and mashup development. You'll learn:

- **Data Extraction:** Techniques for harvesting data from various web sources, including HTML, JSON, and XML.
- **Data Transformation:** Strategies for normalizing, cleaning, and transforming data to make it consistent and usable.
- **Data Linking:** Approaches for connecting data from different sources based on common semantics and relationships.

Knowledge Extraction and Analysis

Beyond data integration, the book delves into advanced techniques for knowledge extraction and analysis, such as:

- **Entity Extraction:** Identifying and extracting meaningful entities (e.g., people, places, organizations) from unstructured text.

- **Relationship Extraction:** Discovering relationships between entities, such as affiliation, location, or temporal connections.
- **Ontology-Based Reasoning:** Using ontologies to infer new knowledge and make logical deductions from existing data.

Applications and Case Studies

To solidify your understanding, the book showcases real-world applications of semantic mashups in various domains, including:

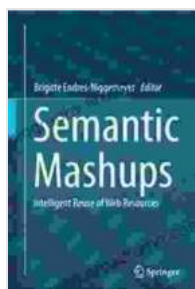
- **E-commerce:** Enhancing product recommendations and personalized shopping experiences.
- **Healthcare:** Integrating medical records, literature, and clinical trials for improved diagnosis and treatment.
- **Government:** Enabling data-driven decision-making and transparency through open data initiatives.

Benefits of Semantic Mashups

Throughout the book, you'll discover the transformative benefits of semantic mashups:

- **Improved Data Quality:** Enhanced accuracy and consistency of data through structured representation and linking.
- **Increased Data Accessibility:** Breaking down silos and making data accessible to a wider range of applications and users.
- **Enhanced Data Analysis:** Enabling deeper data analysis and the discovery of hidden patterns and relationships.

"Semantic Mashups: Intelligent Reuse of Web Resources" is an essential guide for anyone seeking to unlock the power of web data. With its comprehensive coverage of concepts, techniques, and applications, this book empowers data scientists, software engineers, and researchers to create innovative data-driven solutions that drive business value and societal impact.



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