Semiotic Web For The Working Ontologist

Eventually, you will extremely discover a supplementary experience and triumph by spending more cash. yet when? accomplish you take on that you require to acquire those every needs later having significantly cash? Why dont you try to acquire something basic in the beginning? Thats something that will guide you to understand even more not far off from the globe, experience, some places, like history, amusement, and a lot more?

It is your unconditionally own become old to achievement reviewing habit. among guides you could enjoy now is Semantic Web For The Working Ontologist below.

Ontologies with Python Lamy Jean-Baptiste 2021-01-01 Use ontologies in Python, with the Owlready2 module developed for ontology-oriented programming. You will start with an introduction and refresher on Python and OWL ontologies. Then, you will dive straight into how to access, create, and modify ontologies in Python. Next, you will move on to an overview of semantic constructs and class properties followed by how to perform automatic reasoning. You will also learn about annotations, multilingual texts, and how to add Python methods to OWL classes and ontologies. Using medical terminologies as well as direct access to RDF triples is also covered. Python is one of the most used programming languages, especially in the biomedical field, and formal ontologies are also widely used. However, there are limited resources for the use of ontologies in Python. Owlready2, downloaded more than 60,000 times, is a response to this problem, and this book is the first one on the topic of using ontologies with Python. What You Will Learn Use Owlready2 to access and modify OWL ontologies in Python Publish ontologies on dynamic websites Perform automatic reasoning in Python Use well-known ontologies, including DBpedia and Gene Ontology, and terminological resources, such as UMLS (Unified Medical Language System) Integrate Python methods in OWL ontologies Who Is This Book For Beginner readers from biomedical sciences and artificial intelligence who seek to implement semantic web applications.

Learning SPARQL Bob DuCharme 2013-07-03 Gain hands-on experience with SPARQL, the RDF query language that’s bringing new possibilities to semantic web, linked data, and big data projects. This updated and expanded edition shows you how to use SPARQL 1.1 with a variety of tools to retrieve, manipulate, and federate data from the public web as well as from private sources. Author Bob DuCharme has you writing simple queries right away before providing background on how SPARQL fits into RDF technologies. Using short examples that you can run yourself with open software, youll learn how to discover new datasets. Get the big picture on RDF, linked data, and the semantic web Use SPARQL to find bad data and create new data from existing data Use datatype metadata and functions in your queries Learn techniques and tools to help your queries run more efficiently Use RDF Schemas and OWL ontologies to extend the power of your queries Discover the role that SPARQL can play in your applications.

Linked Data Tools Karen Coyle 2012 This issue of Library Technology Reports presents an overview of current developments in Semantic Web technology that provide the foundations for making library data accessible on the Semantic Web. This introductory textbook on description logics, relevant to computer science, knowledge representation and the semantic web. An Introduction to Ontology Engineering C. Maria Keet 2018-11-07 An Introduction to Ontology Engineering introduces the student to a comprehensive overview of ontology engineering, and offers hands-on experience that illustrate the theory. The topics covered include: logic foundations for ontologies with languages and automated reasoning, developing good ontologies with methods and methodologies, the top-down approach with foundational ontologies, and the bottom-up approach to extract content from legacy material, and a selection of advanced topics that includes Ontology-Based Data Access, the interaction between ontologies and natural languages, and advanced modeling with fuzzy and temporal ontologies. Each chapter contains review questions and exercises, and descriptions of two group assignments are provided as well. The textbook is aimed at advanced undergraduate/postgraduate level in computer science and could fit a semester course in ontology engineering or a 2-week intensive course. Domain experts and philosophers may fit a subset of the chapters of interest, or work through the chapters in a different order. Maria Keet is an Associate Professor with the Department of Computer Science, University of Cape Town, South Africa. She received her PhD in Computer Science in 2008 at the KRDB Research Centre, Free University of Bozen-Bolzano, Italy. Her research focus is on knowledge engineering with ontologies and Ontology, and their interaction with natural language and conceptual data modelling, which has resulted in over 100 peer-reviewed publications. She has developed and taught multiple courses on ontology engineering an publication at various universities.
canon for contemporary digital scholarship. In twenty-five pioneering and incisive essays, Grigoris Antoniou says "...we can collect, connect, and interpret vast digital libraries, the design of digital tools and objects, and the deployment of critically grounded technologies for analysis and discovery. Contributors cover a broad range of topics, including software development, hackathons, digitized objects, diversity in the tech sector, and distributed scientific collaborations. They discuss the implications of technical and ethical considerations of software, design projects that can translate STS concepts into durable scientific work, and much more. Featuring a concise introduction by Janet Vertesi and David Ribeis and accompanied by an interactive microsite, this book provides new perspectives on digital science and technology that will shape the agenda for tomorrow's generation of STS researchers and practitioners.

A Semantic Web Primer

Grigoris Antoniou 2012-09-07

A new edition of the widely used guide to the key ideas, languages, and technologies of the Semantic Web The development of the Semantic Web, with machine-readable content, has the potential to revolutionize the World Wide Web. The Semantic Web was designed as an introduction and guide to this continuously evolving field, describing its key ideas, languages, and technologies. Suitable for use as a textbook or for independent study by professionals, it concentrates on undergraduate-level fundamental concepts and techniques that will enable readers to proceed with building applications on their own and includes exercises, project descriptions, and annotated references to relevant online materials. The third edition of this widely used text has been thoroughly updated, with significant new material that reflects the many changes to the field. Treatment of the core web languages (OWL, rules) expands the coverage of RDF and OWL, defining the data model independently of XML and including coverage of N3/Turtle and RDFa. A chapter is devoted to OWL2, the new W3C standard. This edition also features additional coverage of the query language SPARQL, the rule language RIF and the possibility of interaction between rules and other languages. The new applications section reflects the rapid developments of the past few years. A new chapter offers ideas for term projects. Additional material, including updates on the technological trends and research directions, can be found at http://semanticwebbook.org.

A Librarian's Guide to Graphs, Data and the Semantic Web

James Powell 2015-07-09

Graphs are about connections, and are an important part of our connected and data-driven world. A Librarian's Guide to Graphs, Data and the Semantic Web is geared toward library and information science professionals, including librarians, software developers and information systems architects who want to understand the fundamentals of graph theory, how it is used to represent and explore data, and how it relates to the semantic web. This title provides a firm grounding in the theory and the science of networks, before the following chapters cover networks in various disciplines. The first two chapters consider graphs in theory and the science of networks, before the following chapters cover networks in various disciplines. Remaining chapters move on to library networks, graph tools, graph analysis libraries, information problems and network solutions, and semantic graphs and the semantic web. Provides an accessible introduction to network science that is suitable for general library audiences. Devoted to the demonstration of how graph theory has been used in a number of scientific data-driven disciplines Explores how graph theory could aid library and information scientists Designing and Building Enterprise Knowledge Graphs

Juan Sequeda 2021-08-05

This book is a celebration of Leslie Lamport's work on concurrency, interwoven in four-and-a-half decades of an evolving field. From the introduction of the concept in the 1970s to the era when parallel and distributed multiprocessors are abundant. His works lay formal foundations for concurrent computations executed by interconnected computers. Some of the algorithms have become standard engineering practice for fault tolerant distributed systems. This edition also features additional coverage of the ideas he had on people working in the field. It will be of value to historians of science, and to researchers and students who work in the area of concurrency and who are interested to read about the work of one of the most influential researchers in this field.

xUnit Test Patterns

Gerard Meszaros 2007-05-21

xUnit Test Patterns is a cornerstone of continuous integration. Devotees of rapid, iterative testing strategy will deliver software more aggressively, accelerate user feedback, and improve quality. However, for many developers, creating effective automated tests is a unique and unfamiliar challenge. xUnit Test Patterns is the definitive guide to writing automated tests using the xUnit framework. This book is the work of an xUnit community of practice and test automation expert Gerard Meszaros describes 68 proven patterns for making tests easier to write, understand, and maintain. He then shows you how to make them more robust and repeatable--and far more cost-effective. Loaded with information, this book feels like three books in one. The first part is a detailed
tutorial on test automation that covers everything from test strategy to in-depth test case creation. Part II mainly covers the related tools. Part III, entitled ‘Case study smells,’ provides trouble-shooting guidelines to help you determine the root cause of problems and the most applicable patterns. The third part contains detailed descriptions of each pattern, including re-factorung instructions illustrated by extensive code samples in multiple programming languages.

Semantic Web for the Working Ontologist, 2nd Edition 2011 Semantic Web for the Working Ontologist: Effective Modeling in RDFS and OWL, Second Edition, discusses the capabilities of Semantic Web modeling languages, such as RDFS (Resource Description Framework Schema) and OWL (Web Ontology Language). Organized into three parts, this book provides an introduction to components that make up a Semantic Web, and how they fit together, the concept of inferring in the Semantic Web, and how RDF differs from other schema languages. Finally, the book considers the use of SKOS (Simple Knowledge Organization System) to manage vocabularies by taxonomies and thesauri. Each part is intended for the working ontologist who is trying to create a domain model in the Semantic Web. Updated with the latest developments and advances in Semantic Web technologies for organizing, querying, and processing information, including SPARQL, RDF and RDFS, OWL 2.0, and SKOS Detailed information on the ontologies used in applications, including government data mining, using government data, and more. Even more illustrative examples and case studies that demonstrate what semantic technologies are and how they work together to solve real-world problems.

The Semantic Web: The Next Step in Computing by Michael Uschold 2018-05-29 The purpose of this book is to speed up the processing of learning and mastering the Web Ontology Language OWL. To that end, the focus is on the 30% of OWL that gets used 90% of the time. After a slow incubation period of nearly 15 years, a large and growing number of organizations now have one or more projects using the Semantic Web stack of technologies. The Web Ontology Language (OWL) is an essential ingredient in this stack, and the need for ontologists is increasing faster than the number and variety of available resources for learning OWL. This is especially true for the primary target audience for this book: modelers who want to build OWL ontologies for large and complex problem domains. Book benefit from this book include technically oriented managers, semantic technology developers, undergraduate and post-graduate students, and finally, instructors looking for new ways to explain OWL. The book unfolds in a spiral manner, starting with the core ideas. Each subsequent cycle reinforces and expands on what has been learned in prior cycles and introduces new related ideas. Part I is a cook’s tour of ontology and OWL, giving an informal overview of what things need to be said to build an ontology, followed by a detailed look at how to say them in OWL. This is illustrated using a healthcare example. Part I concludes with an explanation of some fundamental semantic web concepts, such as inference and the role of classes and properties in OWL. Part II introduces the core ideas in OWL, and Part III explores its use in practical applications. Finally, Part IV provides a comprehensive reference guide for OWL and RDF.

The aim of this book is to guide you through the basics of Semantic Web technologies in a way that is accessible and practical. This is achieved by using a variety of examples and case studies to illustrate key concepts. The book is structured into three main parts:

1. The Basics of Semantic Web Technologies: This part introduces the key concepts of the Semantic Web, including the architecture of the Web, RDF, and OWL. It also covers the use of SPARQL to query data on the Semantic Web.
2. Case Studies: This part contains a series of case studies that demonstrate the use of Semantic Web technologies in real-world applications. Examples include bioinformatics, e-commerce, and social media.
3. Advanced Topics: This part covers more advanced topics such as reasoning with OWL, and the use of SPARQL to query data on the Semantic Web.

Semantic Web for the Working Ontologist, 2nd Edition 2011 Semantic Web for the Working Ontologist: Effective Modeling in RDFS and OWL, Second Edition, discusses the capabilities of Semantic Web modeling languages, such as RDFS (Resource Description Framework Schema) and OWL (Web Ontology Language). Organized into three parts, this book provides an introduction to components that make up a Semantic Web, and how they fit together, the concept of inferring in the Semantic Web, and how RDF differs from other schema languages. Finally, the book considers the use of SKOS (Simple Knowledge Organization System) to manage vocabularies by taxonomies and thesauri. Each part is intended for the working ontologist who is trying to create a domain model in the Semantic Web. Updated with the latest developments and advances in Semantic Web technologies for organizing, querying, and processing information, including SPARQL, RDF and RDFS, OWL 2.0, and SKOS Detailed information on the ontologies used in applications, including government data mining, using government data, and more. Even more illustrative examples and case studies that demonstrate what semantic technologies are and how they work together to solve real-world problems.
two years prior, and the volume of data was projected to grow from 3.2 zettabytes to over 40 zettabytes in the next 10 years. Data, including scientific and research, and commercial data are facing many challenges in how to organize, query, and process the data needed for high-performance scientific computing and data-intensive science research. The book bring together the latest advances and research into Semantic Web technologies for organizing, querying, and processing information, including SPARQL, RDF and RDFS, OWL, and the extended RDF schema, and the use of inductively designed key web applications, including e-commerce, social networking, data mining, using government data, and new applications that demonstrate what semantic technologies are and how they work together to solve real-world problems.

Semantic Web for the Working Ontologist

Panos Alexopoulos 2020-08-19 What value does semantic data modeling offer? As an information architect or data science professional, let's say you have an abundance of the right data and the technology to extract business gold—do you still fail? The reason? Bad data semantics. In this presentation, I will show you how a well-built and organized data model can help you on an eye-opening journey through semantic data modeling as applied in the real world. You'll learn how to master this craft to increase the usability and value of your data and applications. You'll also explore the pitfalls to avoid and overcome to deliver high-quality and valuable semantic representations of data. Understanding the fundamental concepts and processes related to semantic data modeling, Examines the quirks and challenges of semantic data modeling, and learns how to effectively leverage the available frameworks and tools. Avoid mistakes and bad practices that can undermine your efforts to create good data models. Learn about model development and the use of shared intellectual property to improve and expressiveness and content, development, and governance. Organize and execute semantic data initiatives in your organization, tackling technical, strategic, and organizational challenges.

Principles of Health Interoperability

Tim Benson 2016-06-22 This book provides an introduction to health interoperability and the main standards used. Health interoperability delivers health information where and when it is needed. Everybody stands to gain from safer more soundly based decisions and less duplication, delays, waste and errors. The third edition of Principles of Health Interoperability gives an overview of Health Level 7 (HL7), the de facto standard for health interoperability. The third part covers FHIR and has been contributed by Grahame Grieve, the original FHIR chief. The fourth part covers FHIR and has been contributed by Grahame Grieve, the original FHIR chief.

Knowledge Graphs

Aidan Hogan 2021-11-08 This book provides a comprehensive and in-depth introduction to Knowledge Graphs, the use of knowledge graphs, their use in both industry and academia. Knowledge graphs are founded on the principle of applying a graph-based abstraction to data, and are now broadly deployed in scenarios that require integrating and extracting value from multiple, diverse sources of data at large scale. The book describes knowledge graphs and provides a high-level overview of how they are used. It presents and contrasts popular graph models that are commonly used to represent data as graphs, and the languages by which they can be queried before describing how the resulting data graph can be enhanced with notions of schema, identity, and context. The book discusses the technologies, including inductive techniques—based on statistics, graph analytics, and machine learning, etc.—can be used to encode and extract knowledge. It covers techniques for the creation, enrichment, assessment, and refinement of knowledge graphs and surveys recent research efforts and directions within which they have been most widely adopted. The book closes by discussing the current limitations and future directions across which knowledge graphs are likely to evolve. This book is aimed at students, researchers, and practitioners who wish to learn more about knowledge graphs and how they facilitate extracting value from data.
diverse data at large scale. To make the book accessible for newcomers, running examples and Python code also included. Syntactic notation are used throughout. Formal definitions and extensive references are also provided for those who opt to delve more deeply into specific topics.

Semantic Web Programming John Heleber 2011-02-25 The next major advance in the Web-3.0 will be built on semantic Web technologies, which will allow data to be shared and reused across applications and community boundaries. Written by a team of highly experienced Web developers, this book examines how this powerful new technology can unify and fully leverage the ever-growing data, information, and services that are available on the Internet. In helpful and instructive detail, the author demonstrates how to use practical, real-world problems while you take a look at the set of design principles, collaborative working groups, and technologies that form the semantic Web. The companion Web site features full code, as well as a reference section, a FAQ section, a discussion forum, and a semantic blog.

Managing the Web of Things John Heleber 2011-02-25 Managing the Web of Things: Linking the Real World to the Web presents a consolidated and holistic coverage of engineering, management, and analytics of the Internet of Things. The web has gone through many transformations, from traditional linking and sharing of computers and databases (the Web of Facts), to the current connection of people (i.e., Web of People), and to the emerging connection of billions of physical objects (i.e., Web of Things). With increasing numbers of electronic devices and systems providing different services to people, Web of Things applications present numerous challenges to researchers, companies, governments, international organizations, and others. This book compiles the newest developments and advances in the area of the Web of Things, ranging from modeling, searching, and data analytics, to software building, applications, and social impact. Its coverage will enable effective exploration, understanding, assessment, comparison, and selection of solutions for the Web of Things (WOT) space, and tools. Readers will gain an up-to-date understanding of the Web of Things systems that accelerates their research. Offers a comprehensive and systematic presentation of the methodologies, technologies, and applications that enable efficient and effective management of the Internet of Things (IoT). The book provides an in-depth analysis on the state-of-the-art Web of Things modeling and searching technologies, including how to collect, clean, and analyze data generated by the Web of Things Covers system design and software building principles, with discussions and explorations of social impact for the Web of Things through real-world applications Acts as an ideal reference or recommended text for graduate courses in cloud computing, service computing, and more.

Software Wasteland Dave McComb 2018 1 Know what’s causing application development waste so you can turn the tide. This is the book your Systems Integrator and your Application Developer will want to read. Software Wasteland (Managing the Wasteland Technology) is a $3.8 trillion per year industry worldwide. Most of it is waste. We've grown used to projects costing tens of millions or even billions of dollars, and routinely running over budget and schedule many times over. These overages in both time and money are almost all wasted resources. However, the waste is hard to see, after being so marbled through all the products, processes, and guiding principles. That is what this book is about. We must see, understand, and agree about the problem before we can take coordinated action to address it. The trajectory of this book is as follows: In Chapter 1, we explore how bad the current system is. In Chapters 2 and 3, we introduce the three strategic challenges, including the legacy software industry, neo-legacy software industry, and legacy modernization industry. Examples of application waste are illustrated from both public and private sectors. In Chapter 2, we explore the economics of the software industry, and what is the speed of Moore's Law, our approaches are not keeping pace. Learn how information systems really behave in terms of actual application development. In Chapter 3 we use "root cause analysis" to reveal the real contributors to this situation, which are dependency, redundancy, complexity, and application centricity. Chapter 4 recounts the many failed attempts we've made in the past to deal with information system complexity, including machine learning, and artificial intelligence. Chapter 5 dismantles seven fallacies that contribute to our remaining stuck. For example, the first fallacy is "we need to follow the requirements or we won't get what we want." The second is not affecting all sectors of the economy equally. Chapter 6 looks at how this is playing out in the government and private sectors, large and small companies, and various parts of the IT industry itself. Chapter 7 outlines some action you can take as a systems integrator to help you understand and manage software waste. That is what this book is about. We must see, understand, and agree that the waste is hard to see, after being so marbled through all the products, processes, and guiding principles. That is what this book is about. We must see, understand, and agree about the problem before we can take coordinated action to address it. The trajectory of this book is as follows: In Chapter 1, we explore how bad the current system is. In Chapters 2 and 3, we introduce the three strategic challenges, including the legacy software industry, neo-legacy software industry, and legacy modernization industry. Examples of application waste are illustrated from both public and private sectors. In Chapter 2, we explore the economics of the software industry, and what is the speed of Moore’s Law, our approaches are not keeping pace. Learn how information systems really behave in terms of actual application development. In Chapter 3 we use “root cause analysis” to reveal the real contributors to this situation, which are dependency, redundancy, complexity, and application centricity. Chapter 4 recounts the many
including RDF Semantics and Concepts and Abstract Model specifications, RDF constructs, and the RDF Schema. The second section focuses on programming language support, and the tools and utilities that allow developers to review, edit, parse, store, and manipulate RDF/XML. Subsequent sections focus on RDF's data roots, programming and framework support, and practical implementation and use of RDF and RDF/XML. If you want to know how to apply RDF to information processing, Practical RDF is for you. Whether your interests lie in large-scale information aggregation and analysis or in smaller-scale projects like weblog syndication, this book will provide you with a solid foundation for working with RDF.