Preface

INTRODUCTION

Tim Berners-Lee coined the term "Linked Data" in his Linked Data Web architecture note. It refers to a way of publishing and interlinking structured data on the Web and in simple words, basically *Linked Data* aims to enable people to share structured data on the Web as easily as they can share documents today. The basic assumption behind this term is that the usefulness and value of data increases the more it is interlinked with other data. According to Tim Berners-Lee (2006), "like the web of hypertext, the web of data is constructed with documents on the web. However, unlike the web of hypertext, where links are relationships anchors in hypertext documents written in HTML, for data they links between arbitrary things described by RDF".

The book will help to communicate and disseminate relevant recent research in open linked data and Semantic Web based personalization as applied to the context of information systems.

OBJECTIVES OF THE BOOK

Linked Data literature proposes using the Web to connect related data that was not previously linked, or using the Web to lower the barriers to linking data currently linked using other methods. More specifically, the basic elements of linked data are to: (1) use the RDF data model to publish structured data on the Web; and (2) use RDF links to interlink data from different data sources. The application of both principles leads to the creation of a data commons on the Web which is often called the Web of Data or Semantic Web.

The book chapter collection covers Open Linked Data and Semantic Web approaches to information systems and ontology-based information systems research, as well as the diverse underlying database and knowledge representation aspects that impact personalization and the customization. The chapter addresses challenges for this new field of research.

Chapter 1 provides an overview on the existing product scheme classification to the Linked Open Data initiative in the context of the European Union and other official organizations such as the United Nations, and more importantly as it applied to the e-procurement sector.

Chapter 2 describes the development and concept for the creation of Open Linked Data repositories, including what will be the profit of it as well as who will create Open Linked Data and in which vocabularies. The chapter proposes several ideas in the conclusion of these issues.

Chapter 3 presents a case study on open government data that is increasingly being published on the web, which contributes to the reusability of public data. The use of linked data has increased over the years, which enables smarter applications.

Chapter 4 investigates to what extent an automated construction of an integrated data network is possible. The authors of the chapter propose a method that predicts and extracts cross-references from multiple life science databases and possible referenced data targets.

Chapter 5 focuses on the role of controlled vocabulary for publishing the web of data. Though there are no specific notions of CV (controlled vocabulary), the authors have defined it as a set of concepts or preferred terms and existing relations among them.

Chapter 6 presents a case study to describe information about organizations in a standard way using the linked data approach using models and ontologies in order to formalize the data, structure, and behaviour of organizations.

Chapter 7 introduces the concept of touristic object, giving special attention to the representation of temporal, spatial, and thematic knowledge. The chapter also proposes a three-layered architecture for the representation of touristic objects in the web.

Chapter 8 presents the analysis of the Wikipedia collection by means of the ELiDa framework with the aim of enriching linked data. The chapter considers seven databases extracted from the Wikipedia collection. Each dataset has been analyzed from two viewpoints in order to highlight relevant knowledge at different levels of abstraction.

Chapter 9 examines the web electronic service framework for a specific university in Australia. This department is in the process of developing and implementing a web-based e-service system. This study also highlights descriptive data about the attributes that form the experience.

Chapter 10 describes a news trends detection system built with the aim of detecting daily trends in a a big collection of news articles extracted from the web and exposes the computed trends data as open linked data that can be consumed by other components of the IT infrastructure.

The subject area is a combination of *Web Semantic, Open Linked Data, Business, Management, Information Technologies* and *Information Systems*.

TOPICS

The book aims to be an international platform to bring together academics, researchers, lecturers, persons in decision making positions, policy makers, and practitioners from different backgrounds; to share new theories, research findings, and case studies to enhance understanding and collaboration in open linked data in business and science; to enhance the role of information technologies and web semantics; and to analyse recent developments in theory and practice.

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