SpringerLink

Try the new **SpringerLink** Beta

Institutional Login

Welcome!

To use the personalized features of this site, please **log in** or **register**.

If you have forgotten your username or password, we can **help**.

My Menu

Marked Items
Alerts
Order History

Saved Items

All
Favorites

Content Types   Subject Collections

English

Book Chapter

Relation Elements for the Semantic Web

PDF (215.4 KB)   HTML

Add to marked items

Add to shopping cart
Add to saved items
Permissions & Reprints
Recommend this chapter

Find   **more options**

... Go

● Within all content
○ Within this book series
○ Within this book

Export this chapter

Export this chapter as RIS | Text

Google-Anzeigen

Cartik R. Kothari[1] ✉ **and David J. Russomanno**[1] ✉

(1) Department of Electrical and Computer Engineering The University of Memphis Memphis, TN 38152, USA

Abstract

The investigation into the intrinsic nature of relations has led to the development of the Relation Element theory. At present, there is no significant initiative to comprehensively describe the intrinsic nature of relations in ontological representations for the Semantic Web. The use of relation elements can describe the nature of relations in knowledge domains beyond the capabilities of currently popular knowledge representation paradigms for the Semantic Web such as OWL and DAML. With this in mind, this paper presents an implementation of the relation element theory for the Semantic Web using the reification feature of RDF/RDFS. The reasons for the inability to use DAML or OWL for defining relation elements are discussed with possible solutions. Finally, some of the possible benefits of using relation elements to define the intrinsic nature of relations for Semantic Web applications are also proposed and demonstrated in this paper.

Fulltext Preview (Small, Large)

PNA: Peptide Nucleic Acid

Custom PNA synthesis, Fmoc monomer, telomere FISH, miRNA inhibitors

panagene.com

Relation Elements for the Semantic Web

Cartik R. Kothari and David J. Russomanno

Department of Electrical and Computer Engineering
The University of Memphis
Memphis, TN 38152 USA
(rkothari, d-russomanno)@memphis.edu

Abstract. The investigation into the intrinsic nature of relations has led to the development of the Relation Element theory. At present, there is no significant initiative to comprehensively describe the intrinsic nature of relations in onto-logical representations for the Semantic Web. The use of relation elements can describe the nature of relations in knowledge domains beyond the capabilities of currently popular knowledge representation paradigms for the Semantic Web such as OWL and DAML. With this in mind, this paper presents an implementation of the relation element theory for the Semantic Web using the reification feature of RDF/RDFS. The reasons for the inability to use DAML or OWL for defining relation elements are discussed with possible solutions. Finally, some of the possible benefits of using relation elements to define the intrinsic nature of relations for Semantic Web applications are also proposed and demonstrated in this paper.

1 Introduction

The chief objective of the Semantic Web [1] is to format the extensive knowledge, data and meta-data stored in the World Wide Web for processing by intelligent agents. This involves using standardized sets of markup tags on Web pages that can be used to encode the information contained in them.

In keeping with the decentralized nature of the Web, the Semantic Web is a collection of ontological representations of knowledge domains spanning the dimensions of human knowledge. The ontological representation of a knowledge domain com-

Frequently asked questions | General information on journals and books | Send us your feedback | Impressum | Contact

© Springer. Part of Springer Science+Business Media

Privacy, Disclaimer, Terms and Conditions, © Copyright Information

MetaPress Privacy Policy