

Chapter 4

Web Ontology Language: OWL2

4.1 Introduction

The variety of things you can say in RDF and RDF Schema that we discussed in the previous chapters is deliberately very limited. RDF is (roughly) limited to binary ground predicates, and RDF Schema is (roughly) limited to a subclass hierarchy and a property hierarchy, with domain and range definitions of these properties. The languages are designed with flexibility in mind.

However, in many cases we need to express more advanced, more ‘expressive,’ knowledge – for example, that every person has exactly one birth date, or that no person can be both male and female at the same time.

Successive W3C working groups,¹ the Web Ontology Working Group and the OWL Working Group, identified a number of characteristic use cases for the Semantic Web that require much more language features than those that RDF and RDFS have

¹See www.w3.org/2001/sw/WebOnt/ and http://www.w3.org/2007/OWL/wiki/OWL_Working_Group, respectively.