

subject and predicate of a triple is represented by a URI that performs a referential function, making it both human readable and machine processable. The object can be either a URI or a literal (a simple string of characters). When associated with a URI, any object of an RDF triple can then become the subject of another triple, creating chains of relationships and representing the information space as a graph or network. Generating connections is at the core of linked data, and connecting bits of information in new ways has the potential to create unanticipated opportunities for data navigation, discovery and use.

As a data model, RDF alone does not provide the knowledge representation formalisms to construct an ontology, which describes classes of entities and the types of relationships that connect one to another. This function is performed by knowledge representation languages like RDF Schema (RDFS) (Brickley & Guha, 2014) and OWL (Web Ontology Language) (W3C Owl Working Group, 2012), which define primitives and logical constraints. Both languages have their roots in the Semantic Web community and come with different degrees of formality. RDFS provides essential constructs to define classes, properties and the mechanism to organize them in a hierarchical structure. Two types of constraints, domain and range, are the only restrictions imposed on the scope and values for classes and properties. Built upon RDF and RDFS, OWL is designed to allow a greater degree of formality for the definition of classes and relationships. More specifically, OWL extends the power of RDFS with constructs to represent new concepts and more complex relationships than the one of subsumption. This is made possible by the logical combination of classes, such as intersections, unions, and complements, as well as axioms on properties, including transitive, symmetric, functional, and inverse. Another W3C standard, the Simple Knowledge Organization System (SKOS) (Miles & Bechhofer, 2009) is also commonly used for LOD representations. SKOS, an OWL ontology designed to describe