**Knowledge and Data Engineering Report**

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# 1 Introduction

## 1.1 RDF

RDF, stands for Resource Description Framework, is a standard model, which is ‘sufficiently expressive and flexible representations’(Hochheiser et al., 2016), used for data interchange on the Web. RDF extends the linking structure of the Web by naming the relationships between things and the two ends of the link with URIs (in expression of the form subject-predicate-object), also referred to as a ‘triple store’(Homburg et al., 2016). Data stored and presented in RDF enables computers and people to work in cooperation, which means computers can understand the meaning of the data.

## 1.2 Ontology

In computer science and information science, an ontology encompasses a representation, formal naming, and definition of the categories, properties, and relations between the concepts, data, and entities that substantiate one, many, or all domains.

## 1.3 SPARQL

SPARQL provides a standardized query language for RDF graph. Like other query language, SPARQL queries attempt to match patterns in the graph and bind wildcard variable as it finds solutions(Segaran, 2009).

# 2 Related Work

Much work has been done to apply ontology models to practical fields. Lixiao et al. imported the hazardous chemical device's status collected from the existing industrial monitoring network and the real-time data into the ontology model aiming at big data processing and automatic reasoning(Feng et al., 2018). Similarly, Weilong et al. presented ontology-based user modeling system, and applied the user ontology to provide customized services in the context of E-commerce(Liu et al., 2008).

# 3 Approach

## 3.1

# 4 Overview

# 5 Challenges

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# 6 Results

# 7 Conclusions

**REFERENCES**

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