COLLABORATIVE DISCUSSION 2

(SUMMARY POST)

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In this collaborative conversation, we examined ontology languages and how they help users represent the knowledge they are trying to capture. I argued that ontology languages must reflect structures other than their syntaxes and be able to operate on top of a semantically monitored, machine-readable layer of contents, especially in the case of semantic web applications. By comparing KIF, RDF, OWL Lite, and OWL 2, it was concluded that OWL 2 is the most suitable language for modern ontologies on the World Wide Web, as it is expressive, supports reasoning, and offers formal semantics (Kalibatiene & Vasilecas, 2011; Cuenca Grau et al., 2008).

KIF is very logic-rich and highly expressive but is challenging to implement at scale and not web-friendly (Slimani, 2015). Although RDF provides the foundational framework for web metadata, it lacks built-in reasoning capabilities (W3C, 1997). OWL Lite offers a lightweight and simplified approach but lacks the expressiveness needed for moderately complex domains (Kalibatiene & Vasilecas, 2011). In contrast, OWL 2 was developed to overcome the shortcomings of OWL 1 and introduces powerful reasoning profiles (EL, QL, RL) along with enhanced semantics, making it well-suited for building intelligent systems on the Semantic Web (W3C, 2012).

My cohort member, Rodrigo Pereira Cruz, echoed and amplified these points. He emphasised OWL 2's advantages, such as standardised semantics, datatype support, and annotation properties. As he correctly pointed out, OWL 2 answers many of the drawbacks of previous ontology languages and is a new standard.

Our discussion indicates that OWL 2 is a high-quality ontology language that strikes a good trade-off between expressiveness and standardisation OWL 2: A Description Logic for the Semantic Web As the Semantic Web evolves, OWL 2 will remain essential for building intelligent, interoperable applications that can reason over complex, structured knowledge.

References

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