

RuleML FOAF: Web Rules for Social Networking

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April 3, 2006

Web-based social networking is emerging as a major application area for Semantic Web metadata. Recently, a number of portals have become popular to support Web-based collaboration. In particular, the RDF-based Friend-Of-A-Friend (FOAF) project, originated by Dan Brickley and Libby Miller, has gained momentum in the last few years, and is attracting increasing attention of researchers as well as practitioners. However, FOAF only provides (person-centric) facts. Therefore, we put forward RuleML FOAF, a combination of RDF-based FOAF and the Rule Markup Language (RuleML) extending the factual FOAF vocabulary by RuleML rules. FOAF facts are complemented by rules for deriving further FOAF facts, either before (RDF) FOAF publication or, on demand, from published (RuleML) FOAF pages: we implemented, in the Objected Oriented java Deductive Reasoning Engine for the Web (OO jDREW), both a Fact-oriented Normal Form (FNF) and a Rule-oriented Normal Form (RNF). While the RNF strives for compactness, the FNF directly corresponds to RDF FOAF facts. The RNF includes rules as well as the (elementary) facts that are needed by the premises of rules. All facts derivable from rules with OO jDREW BU (Bottom Up) are removed from the knowledge base. Corresponding queries can be proved by OO jDREW TD (Top Down). The FNF includes elementary facts and derived facts. Rules are removed from the published knowledge base after all possible facts are derived by running OO jDREW BU. Whenever there are new elementary facts asserted, the (unpublished) rules will be triggered by them. RuleML FOAF is the basis for expert finding with FindXpRT (MCeTECH 2006).