Extending JQuery Using a Query Description Logic Language

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ABSTRACT

As software systems become more complex, more tools are designed to ease software developers’ everyday tasks. JQuery is an example of one such tool, which helps a developer to uncover interdependencies between program elements and to navigate through tangled code. JQuery combines a query language with a hierarchical code browser in order to allow a user to search Java source code. The current implementation of JQuery can support several backends, each of which can provide a different syntax to issue queries. TyRuBa is one such backend integrated into the main backend framework. This paper presents a JQuery backend based on Query Description Logic (QDL) language. The language supports unary and binary predicates and a notation for signature patterns. In this implementation of the QDL backend, QDL queries are compiled into TyRuBa. In this paper, I compare the conciseness and expressiveness of the two languages. The syntax of QDL language is more concise than the TyRuBa syntax. The succinct nature of QDL syntax can be attributed to the signature pattern notation and the fact that predicates in QDL do not accept any variables. Therefore, QDL backend can be a useful extension of JQuery tool.