

ABSTRACT

DISSERTATION: Development of PHP to UPML Transformer

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This thesis developed a new markup language based on eXtensible Markup Language (XML), named as the Unified Programming Markup Language (UPML), which represents an abstraction of programming techniques of popular programming languages, and is used to store the programming semantic information of various programming languages. UPML aims to provide a general software quality analysis platform and as a gateway to translate programs between high-level programming languages. This research created and analyzed the features of UPML and concluded that UPML may have advantages over the traditional and newly appeared methods in software quality analysis and programming language translation. As the proof of concept in building such a software analysis and translation system, this research developed a PHP to UPML transformer. Execution examples showed its correctness of working in the core programming area of popular programming techniques, structure programming (SP) and object-oriented programming (OOP). The PHP implementation can be easily applied to other programming languages that support the same programming techniques. Since

UPML is extensible, languages of other programming paradigms beyond the SP and OOP can be easily added.