

ABSTRACT

CONSISTENCY CHECKING OF UML CLASS AND SEQUENCE DIAGRAMS

E.M.N.K.Ekanayake

Postgraduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka
Department of Computer Science and Statics, University of Peradeniya, Peradeniya, Sri Lanka

In object-oriented software modelings using the Unified Modeling Language (UML) different aspects of a system are represented by various types of diagrams. UML diagrams represent two different views of a system model. They are static and dynamic views. Class diagram is an instance for static structure and sequence diagram is an instance for dynamic structure. With large and more complex UML models in the software development industry there is a serious issue in inconsistencies occurring. In design evolution presents tree issues: Consistency amongst design representations, traceability of a design change in code in order to maintain consistency and versioning of design entities along with versioning of code. In this research report we discussed the consistency analysis between UML class and sequence diagrams in relational meta-model and an algorithm to check consistency based on the XMI (XML Metadata Interchange) format.

In here UML diagrams are drawn by using Enterprise Architect. Then these diagrams are exported to XMI format. While reading the XMI document through this tool and stored in a database. Then querying the database analysis of these diagrams done through this tool. The tool is developed by using Visual studio C#.Net 2010 and SQL server 2008.