

This work examines XML data management and consistency -- more precisely the problem of document adaptation and the usage of integrity constraints. Changes in user requirements cause changes in schemas used in the systems and changes in the schemas subsequently make existing documents invalid. In this thesis, we introduce a formal framework for detecting changes between two versions of a schema and generating a transformation from the source to the target schema. Large-scale information systems depend on integrity constraints to be preserved and valid. In this work, we show how OCL can be used for XML data to define constraints at the abstract level, how such constraints can be translated to XPath expressions and Schematron schemas automatically and verified in XML documents.