

Title: MS SQL Application Development Framework

Author: Bc. Marek Hanes

Department: Department of Software Engineering

Supervisor: RNDr. Michal Kopecký, Ph.D.

Supervisor's e-mail address: kopecky@ksi.mff.cuni.cz

Abstract: The thesis deals with a database application development and tries to find ways to optimize the most common problems encountered. The goal of this thesis is to design and develop a modular framework that simplifies the database application development and prevents inexperienced users from using unsafe SQL statements and/or expressions. The example of such a statement can be the insert statement without explicit column list, unsafe XPath expression, etc. The framework provides among others

- manipulation with history tables allowing versioning of data and reverting unwanted data changes
- asynchronous and parallel SQL execution support, error management and logging support, monitoring of schema changes as well as procedure and function debugging

Together with means of data manipulation, the framework provides the simple way of publishing stored procedure as web service as well. The framework is accompanied by well-written programmers and users guide to allow its further development.

Keywords: application development, framework, modular design, safe statements, constraints