



An Analysis of Legacy Database Updating through Database Wrapping Technologies-A Programming Technique

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By

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LETTER OF RECOMMENDATION

Mr. Hem Raj Aryal has carried out this thesis work entitle “**An Analysis of Legacy Database Updating through Database Wrapping Technologies-A Programming Technique**” under my supervision and guidance. In my best knowledge this thesis successfully completed which fulfills the requirements for the award of the Degree of Master’s in Computer Science and Information Technology, therefore I recommended for further evaluation.

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We certify that we have read this dissertation work and in our opinion it is satisfactory in the scope and quality as a dissertation as the partial fulfillment of the requirement of Masters of Computer Science and Information Technology from Tribhuvan University, Nepal.

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Abstract

This study examines Legacy Database Updating through Database Wrapping Technologies – A Programming Technique. Legacy database updating through code level programming is directly updating of legacy database doesn't consider the problem of guaranteeing data consistency by rejecting updates that violates constraints implicitly or explicitly. By using XML as data exchange format of the wrapper. Wrapper architecture based on the conversion and management of the views as the bridge from global schema to local schema of various data sources. Our wrapper has two main sub systems, data extract subsystem and query executor subsystem. The former is for loading data for the cache in mediator when changes more than threshold are detected and the latter is for answering the query from the mediator. The architecture adapts to the data and schema change of the data source and could answer the query of mediator effectively. Considering the wrapper may run in the environment without control, the process in wrapper should be simple enough. The storage in wrapper itself should be as small as possible and the storage of data source could be used. While directly updating of legacy database doesn't consider the problem of guaranteeing data consistency by rejecting updates that violates constraints implicitly or explicitly.

The central approach in my thesis is to address the problem of providing users and programmers with a wrapper able to emulate implicit structure and constrains in new application through Data Access Layer (Database Wrapper Schema) rather than through application code.

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ABBREVIATIONS

CASE	Computer-Aided Software Engineering
COBOL	Common Business-Oriented Language
CODASYL	Conference on Data Systems Languages
CS	Conceptual Schema
DBMS	Database Management System
DBRE	Database Reverses Engineering
DDL	Data Definition Language
DML	Data Manipulation Language
DTD	Document Type Declaration
ETL	Extract, Transform and Load
FD	Functional Dependency
GER	Generic Entity-Relationship model
I/O	Input Output
KSK	Karmachari Sanchaya Kosh, Nepal
LS	Legacy System
RPG	Reuse Planning Group
SQL	Structural Query Language
UI	User Interface
WS	Wrapper Schema
XML	eXtensible Markup Language
XSLT	Extensible Stylesheet Language Transformations

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