

Generating Repair Rules for Database Integrity Maintenance

Feras Hanandeh and Yaser Quasmeh

Prince Al-Hussein bin Abdullah II Faculty of Information Technology

Hashemite University, Jordan

feras@hu.edu.jo, Y_quasmeh@yahoo.com

Abstract

Repair system has two essential components, which are much related to each other. When the update operation is executed, the first component is the detection of the erroneous state if any and the second component is to repair this state by finding the changes to the update operation that would repair it. Failing to have the second component, which is the repair action, will enforce the user to manually correcting and reentering an erroneous update operation. Our approach will take advantage of the integrity before the update operation, which will result on limiting the detection only to the database state after the update operation. Also the repair component will take advantage of the integrity before the update operation and integrity violation after the update operation but before the repair. The focus of this paper is to generate repairs for all first order constraints, and by using only substitution with no resolution search. Multiple constraints can be satisfied in parallel without a sequential process with no possibility of cyclic violation.