

Summary of the US Patent Granted entitled “Method for Estimating Side Effects of View Updates” (US Patent No.: US 9,734,183) by Dr. Byron Choi and Dr. Yun Peng

An embodiment of the present invention provides method of data-oriented approach to provide a practical support for view updates in database systems. In particular, in one embodiment of the present invention provides a summarization of the source database of views that serves as an update filter that aims to efficiently reject untranslatable view updates by estimating the side effects of the updates, thereby avoiding costly translation analysis. In another embodiment of the present invention where estimation errors are not preferred, the update filter can be tuned to be exact. In a further embodiment of the present invention, there is provided a method of data-oriented approach to provide a practical support for view updates in database systems wherein the update filters are efficient and can be easily tuned to produce accurate estimations. The invention has been tested on TPC-H and DBLP and it exhibited good performances.

More specifically, yet another embodiment of the present invention proposes a Data-oriented View Updater. The side-effect detector and update translator in this updater exploit data summaries of source databases.

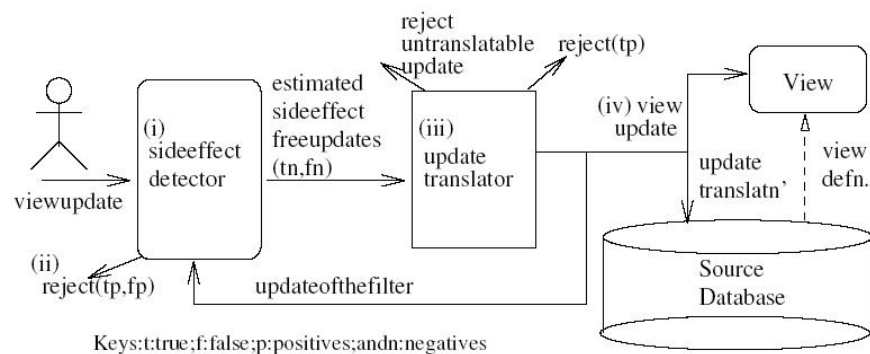


Fig. 1. The overview of our data-oriented view updater

Figure 1 shows the overview of our view updater. (i) A view update is first passed to the side-effect detector. (ii) If some side effects are detected, the update is rejected. (iii) Otherwise, the update is passed to a traditional update translator. The update translator rejects the untranslatable updates. (iv) The translatable ones are accepted, and the source database, the view and the side-effect detector are updated correspondingly.

Those skilled in the art will appreciate that the invention described herein is susceptible to variations and modifications other than those specifically described. The invention includes all such variation and modifications. The invention also includes all of the steps and features referred to or indicated in the specification, individually or collectively, and any and all combinations or any two or more of the steps or features.