

## Automated Design of Updateable Database Views: a Framework for Possible Strategies

There has been substantial amount of work on the subject of how updates to database views should be supported. However, there has been little reported on how to design views which meet certain requirements for information content and furthermore support a certain set  $U$  of updates. In this work, some ideas on how to automate the design of views which are updateable via the constant-meet-complement strategy are presented. The design process itself may require some flexibility in the choice of the view to be updated, since a larger view will generally admit a larger set of updates. Thus, the process consists of the identification of a pair of views  $(\Gamma, \Gamma')$ , in which  $\Gamma$  is the view to be updated and  $\Gamma'$  is a meet complement which supports all updates in  $U$ . The constraint on  $\Gamma$  is that it recapture a certain prespecified minimal amount of information  $I_{\min}$  from the main schema, but not more than a prespecified upper bound  $I_{\max}$ . Since meet complements are precisely those which admit an embedded cover of the dependencies of the main schema, the key to an effective realization of this approach is to find methods for the efficient identification of embedded covers.