A Dynamic Logic for Information Systems

Md. Aquil Khan

Indian Institute of Technology, Kanpur

Abstract

We consider "partial knowledge information systems" (PKIS), and formal definitions of "information" and "information updates" for PKIS. The language of the logic LIS with models based on structures equivalent to PKIS is suitably extended to introduce a dynamic logic DLIS, where the flow of information can be captured. A set of reduction axioms is given, using which every DLIS formula becomes equivalent to some LIS formula. As LIS has a complete axiomatization and is decidable, we obtain the same results for DLIS.