

## **Specifying active databases in the situation calculus**

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### **Abstract**

The paper provides a predicate logic based semantics for active rules in active databases. Previous work has been done to provide the semantics of execution of active rules. In part, this work has been directed towards providing a unifying criteria regarding the meaning of active rules, and to provide a framework for comparing different proposals for active database systems. The main contribution of the article is a proposal to integrate the specification of active rules with the specification of the dynamics of change (based on transactions) in relational databases. The approach extends previous work in which the situation calculus, a language of many sorted predicate logic, is used to specify updates in databases. To achieve this, the authors specify first the notion of database transaction in a situation calculus extended with the notion of occurrence, as proposed by Pinto. They concentrate mostly on the execution semantics of Starburst.

### **Keywords**

Calculus, Transaction databases, Proposals, Logic, Database systems, Concurrent computing, Electrical capacitance tomography, Law, Legal factors.