The declarative specification of transactions and change is becoming increasingly important in a wide range of applications, including workflow systems, active databases, distributed information systems, cooperative systems, agent-based systems, to name just a few.

Although research on dynamic behaviour (i.e., the evolution of databases or even entire information systems with time) is far from complete, a number of interesting and solid approaches have begun to emerge. However, there is no general picture of the problem space, there are no widely accepted solutions to the central problems, and it is unclear how the various approaches relate to each other.

The need is not only for complex rule bases, but also for standard database functionality, such as concurrent access, transaction isolation and atomicity, large amounts of data, data distribution, recovery from system failures, etc. In addition, many current applications require an active, event-based approach as well as the invocation of external, non-database actions. The problems to be solved therefore span all of logic programming and databases, from theory to implementation.

Available as Technical Report MIP-9808, University of Passau, June 1998