

Abstract

Interface automaton is a model of software component behaviour based on finite state machines. It describes component's provided interface, the supported usage, and required interface, the usage of other components. A considerable number of components can be used in parallel with no bound on the level of parallelism. It is not necessary for the model to attempt to capture such unboundedness. An alternative approach is to allow an increment of the level of parallelism on-demand. This thesis analyses on a theoretical level and proposes a final form of an operation to perform such replication to allow creation of models of an arbitrary level of parallelism of certain parts of its behaviour.