

Automatic component adaptation by concurrent state machine retrofitting

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ABSTRACT

It is a common wisdom of component technology that reuse is not obtained automatically: one has to design for reuse; the reusability has to be preserved as a key quality through design, implementation and maintenance. Besides other technologies aiming at reuse, the component based approach gains increasing attention. Although the idea of reusing prefabricated software components is not new, many obstacles hinder reuse and make it hard to achieve the benefits of reuse in practice.

In general few components are reused as they are. Often, available components are incompatible with what is required. This necessitates extensions or adaptations. In this paper we develop a method assisting the software engineer in identifying the detailed causes for incompatibility and systematically overcoming them. Our method also permits the synthesis of common adapters, coercing incompatible components into meeting requirements.