Abstract

Achieving fully-automated service composition is a major requirement in SOA based systems. They try to satisfy the user request to composite service automatically by composing the services at one stage and executing the composed service at the next stage. User request has been transformed formally into the concept of goal and goal models and the success of the goal determines the satisfaction of user request. Goal failure returns no composite service and the user request is not satisfied. The success/failure of goal is based on the ability of the composition process to automatically adapt itself to the dynamic and complex services environment. AI-planning based and Goal-driven approaches, based on the concept of goal and goal models, provide effective solutions to develop fully-automated composition. They semi-automatically adapt the composition to dynamic and complex services domain. Semi-automated adaptive composition approaches try to handle composition (plan) failure and do not handle composition request (goal) failure. Only few approaches try to handle goal failure and that too manually. The concept of goal and goal models in these approaches are explored and research gaps are identified to improve these models so that they aid in producing highly adaptive composition. The aim of this work is to make explicit that the decoupling of Goal Failure and Plan Failure and handling them automatically is essential for full automated service composition. This is made possible by proposing a goal model that can provide more number
of alternates to failed goal. The proposed goal model is well explained with an application example taken from Online Travelling Domain. Then the model is compared with the existing models.

References

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Keywords
