

## Graph Planning Based Composition for Adaptable Semantic Web Services

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**Abstract :** This paper proposes a graph planning technique for semantic adaptable Web Services composition. First, we use an ontology based context model for extending Web Services descriptions with information about the most suitable context for its use. Then, we transform the composition problem into a semantic context aware graph planning problem to build the optimal service composition based on user's context. The construction of the planning graph is based on semantic context aware Web Service discovery that allows for each step to add most suitable Web Services in terms of semantic compatibility between the services parameters and their context similarity with the user's context. In the backward search step, semantic and contextual similarity scores are used to find best composed Web Services list. Finally, in the ranking step, a score is calculated for each best solution and a set of ranked solutions is returned to the user.

**Keywords :** semantic web service, web service composition, adaptation, context, graph planning

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