

Project Title: The Development of a Selection Framework for Component Models
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Abstract:

This research focuses on the formulation of a selection of framework for component models. The selection framework enables the software developers to choose a suitable component model to be used in their software development project that follows component-oriented software development (CBSD) methodology. The framework allows software developers to specify a set of desired criteria of the system to be developed. Based on the specified criteria, an 'idealised' component model that fulfils all the criteria is produced using a tree-like representation format that is based on unified modeling language (UML) notations. Existing component models (candidate component models) is then also produced using the same representation format. Using accumulated multiple criteria decision making algorithm, the framework performs respective node to node comparisons between the idealised component model and each of the candidate component models. Similarity between each pair of compared nodes is measured using a derived set of metrics. Candidate component model that obtains the highest similarity score is regarded as the one that matches the idealised component model the most and will be recommended to the software developer.