Agglomerative Hierarchical Approach for Clustering Components of Similar Reusability

Abstract

This paper presents a clustering approach for grouping components of similar reusability using an already worked out fuzzy data set [2]. Research has shown that, component based systems development concept benefits the object oriented software development. A Component based system achieves flexibility by clearly separating the stable parts of systems from the specification of their composition. Many software systems contain many similar or even identical components and these components are developed from scratch over and over again which require extra effort. So to minimize the extra effort in developing these components, it is more beneficial to reuse the existing components. To reuse components effectively in Component Based Software Development, it is required to quantify the reusability of components. However it is difficult to use clustering approach to predict reusability. This paper discusses a technique to cluster components of similar reusability together for the purpose of minimizing the efforts of the developer using agglomerative hierarchical clustering. Components attribute affecting the reusability are classified into rules using fuzzy system and are then taken as the inputs to the proposed clustering model.
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References

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