

# Software Features Extraction From Object-Oriented Source Code Using an Overlapping Clustering Approach

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**Abstract:** For many decades, numerous organizations have launched software reuse initiatives to improve their productivity. Software product lines (SPL) addressed this problem by organizing software development around a set of features that are shared by a set of products. In order to exploit existing software products for building a new SPL, features composing each of the used products must be specified in the first place. In this paper we analyze the effectiveness of overlapping clustering based technique to mine functional features from object-oriented (OO) source code of existing systems. The evaluation of the proposed approach using two different Java open-source applications, i.e. “Mobile media” and “Drawing Shapes”, has revealed encouraging results.

**Keywords :** feature model, software product line, overlapping clustering, reverse engineering, program analysis