

# Utilising the software metrics of RefactorErl to identify code clones in Erlang

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Code clones [5], the results of “copy&paste programming”, are special types of bad smells. They have a negative impact on software development and maintenance lifecycle. The usual way to detect bad smells is to calculate software metrics. RefactorErl [1, 2] is a source code analysis and transformation tool for Erlang [3]; it provides several software metrics to measure the complexity of the source code, and finds structures that violate some existing requirements or standards, or points out bad smells based on the results of them. Hereupon, it has an automatic analyser mode to check the values of certain metrics during software development and maintenance and report warnings when some of them violate the predefined rules [4].

In this paper we introduce an efficient, parallel, software metric based clone detection algorithm for the functional programming language Erlang. We describe how we can utilise the metrics of RefactorErl to describe the lexical, syntactic and semantic structure of different source code parts. Our algorithm identifies code clones based on the similarity and equality of these metric values and presents only accurate results. We have successfully evaluated it on various open-source projects.

## References

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