

Applying existing software metrics to development release cycles.

Jos Kraaijeveld
Delft University of Technology

ABSTRACT

Software development processes have gotten more and more attention, especially during and after the rise of the agile movement. We believe there has not been enough work focused on measuring and quantifying these software processes, and specifically their release cycles. On the other hand, software product metrics have been around for a long time, up to the point where there are many metrics for each aspect of a system. We think existing product metrics can be used to characterize release cycles.

When using metrics with the added context of time to the previous and next point of release, we believe that root cause analysis will become much easier. For example, a sudden rise in code duplication can be explained better if it is placed at a certain point in a release cycle. Duplication can occur because of multiple reasons, like developers rushing out code just before a deadline. Other examples would be tracing the source of changes in class coupling, depth of inheritance or cyclomatic complexity.

Metrics might provide insight in certain release cycle patterns, which in turn can be used to improve the development process. We hypothesize that various aspects of software release cycles can be characterized using existing product metrics. We think it is possible to detect phases in the time period between two releases. These phases can in turn give insight into the way a particular development team operates and lead to long term improvements of the process.

BODY

We think product metrics can help us understand release cycles. This understanding can in turn improve the software development process.

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