
Referenz: Tool Supported Measurement for OSS Projects (IFS:OSTOL)

Thema: Tool based software metrics collection and analysis from Open Source Software Projects Repositories

LVA-Typ: Praktikum

Start: Ab sofort

Ende: Nach Vereinbarung

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Background

Open source software (OSS) has caught our attention by the success and quality of its projects on the market, despite the fact, that its development does not follow traditional software development principles. In certain software product classes OSS offers comparable or better contributions than “closed source” commercial software products, making OSS a considerable alternative in many domains reaching from operating systems over web-frameworks and databases to office applications. However, many OSS projects are still in their initial phase, in an immature state or have reached the end of their life cycle, which means their survival seems heavily uncertain.

This praktika study aims to provide significant pool of data consists of software metrics and analysis to have an outlook of actual condition of OSS projects in different stages of their life cycle. In this study, students will have benefits from knowledge obtained in using different tools for measuring and analysis of OSS projects that should be applicable also in commercial projects.

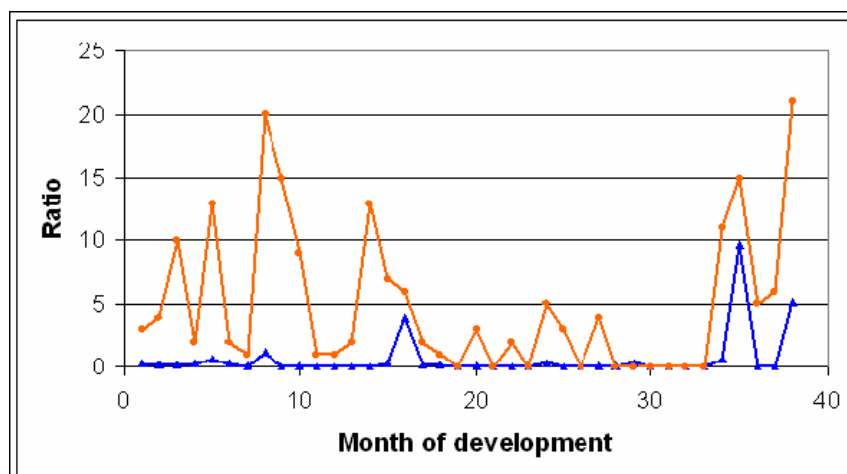


Figure 1: Developer contribution ratio from Apache Tomcat

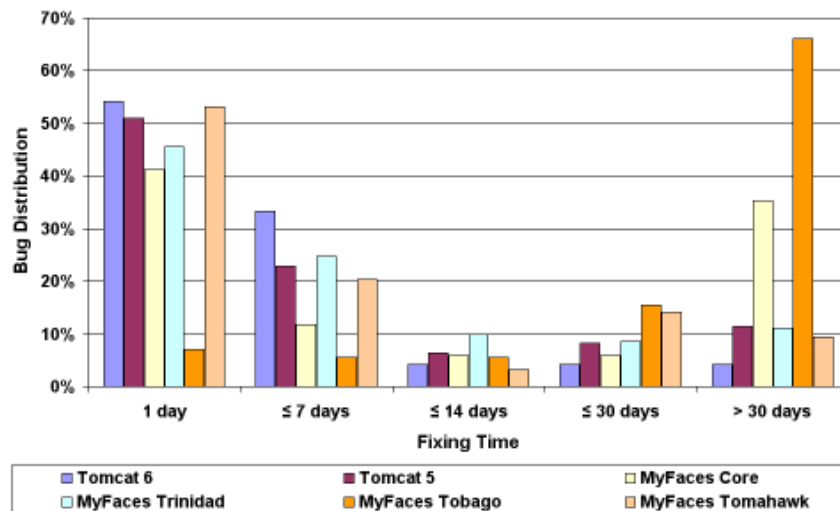


Figure 2: Bug Distribution in 6 Apache Projects

Praktika proceeding:

This praktika can be conducted in a work group consists of 2 to 3 students, with weekly meeting with the supervisor.

Tasks:

- Available tools exploration for software measurements
- Development of tool prototype for integrated data collection and measurement
- Case study definition using large number and various OSS projects available at Sourceforge, Codehaus and Apache Software Foundation
- Data collection from selected OSS projects repositories e.g. issue tracker (Jira and Bugzilla), mailing list, CVS/SVN, change log)
- Data analysis using descriptive statistic, graphs, and factor analysis
- Reporting of praktika results

Requirements

- Good knowledge in Java
- Knowledge in statistic and data analysis
- Familiar with SPSS or other statistical tool such as R or SAS