
Referenz: Empirical Study in Open Source Software Projects (IFS:OSS)
Thema: Quality Improvement Monitoring Cockpit for Open Source Software Projects

LVA-Typ: Diplomarbeit

Start: Ab sofort

Ende: Nach Vereinbarung

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Open source software (OSS) solutions provide mission critical services to industry and government organizations. However, empirical studies on OSS development practices raise concerns on risky practices such as unclear requirement elicitation, ad hoc development process, little attention to quality assurance (QA) and documentation, and poor project management. Even then the ability to produce high quality products in such an environment may seem surprising and thus warrants an investigation on effective QA mechanism in OSS projects.

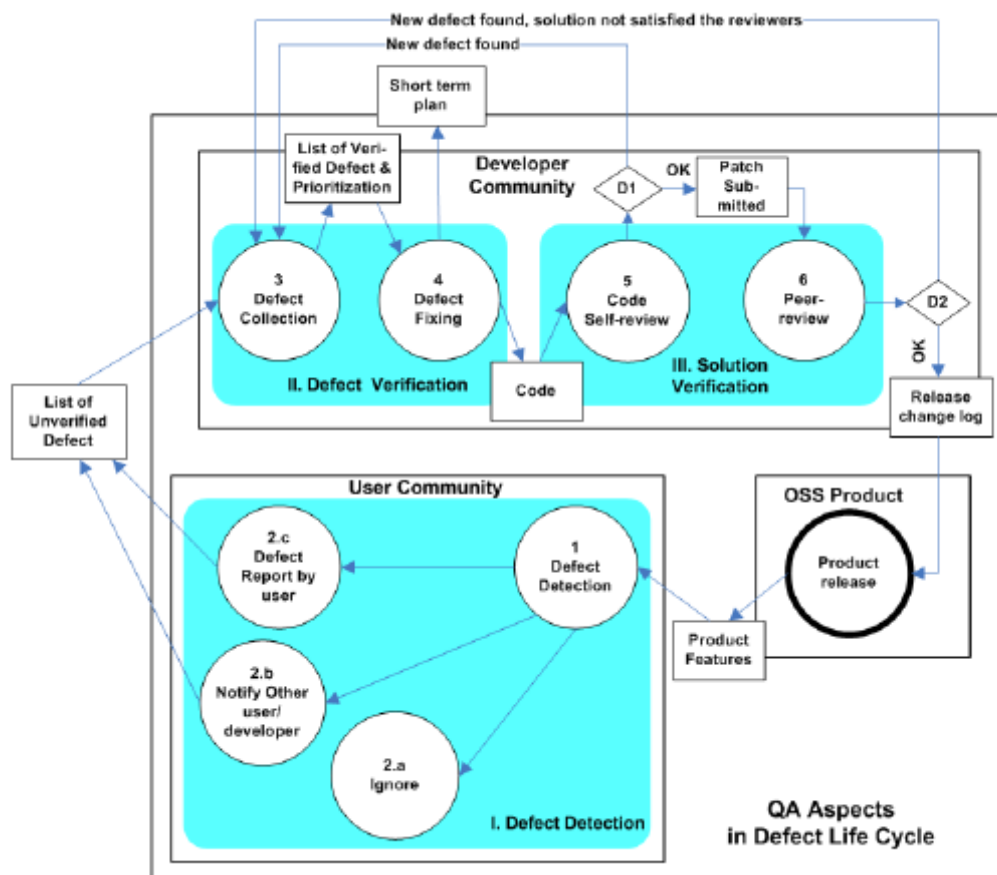


Figure 1. Framework for quality assurance in an OSS project. The quality of OSS is the result of interrelated QA activities within the developer and user communities

The objectives of the study is a) to provide better knowledge of quality improvement in OSS projects which is important for role of project leading team, and the end-user of the OSS products, b) to identify best practices in OSS projects that can be implemented in distributed commercial project and c) to provide tool support (monitoring cockpit) that can monitor the quality improvement of the OSS project over the time during the project life cycle and provide in-time notification for target users whenever a significant risk in project probably occur.

This study starts with exploration of current best-practices in software quality assurance and software process and process improvement. Later empirical studies i.e. OSS experts interview, case study and experiment using data from Open Source Project should be conducted to provide basis for metrics definition, knowledge of quality assurance practices and stakeholders quality improvement information needs from different type of OSS project groups. Derived from requirements gathered during empirical study student later should design and implement a prototype of quality improvement monitoring cockpit. The prototype should be tested with real data from OSS projects.

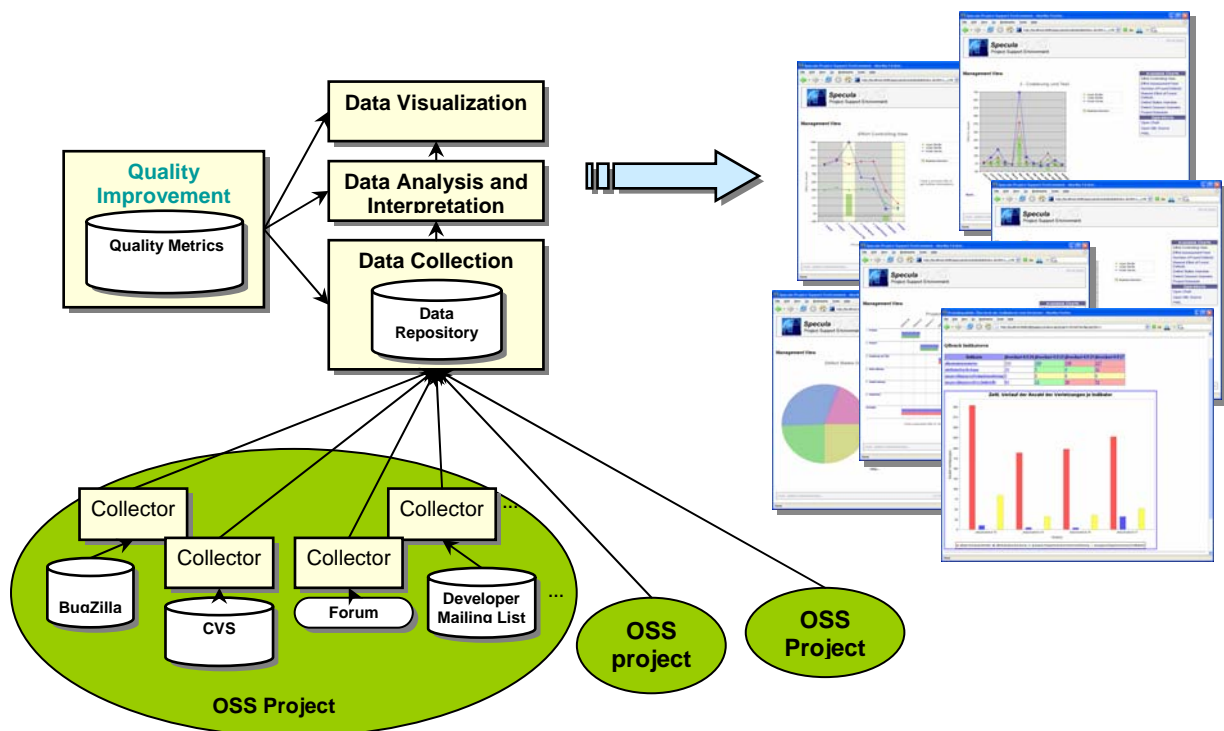


Figure 2. Quality Improvement Monitoring Cockpit Design

Requirements:

- Proficient in Java and Enterprise Service Bus (ESB) e.g. Mule
- Knowledge of OSS projects and OSS applications
- Working knowledge of statistical tools (e.g. SPSS, , SAS) and analysis (descriptive, visual and factor analysis)