THE USE OF DEFINITION OF DONE ON AGILE PROJECTS

This briefing reports scientific evidence on the Definition of Done criteria used in agile projects based on scientific evidence from a systematic review.

FINDINGS

The main findings of this paper considered that there are different types of Definition of Done (DoD) criteria, such as:

- Activity (e.g., peer code review);
- Metrics (e.g., localization defect density);
- Targets (e.g., product committed to CVS);
- Standards (e.g., coding standards);
- Checklist (e.g., design review checklist).

The Done Criteria is categorized based on each activity given its end goal. The defined criteria was *software verification and validation*, *deploy*, r*egulatory compliance*, *code inspection*, *test process quality*, *software architecture design*, *process management*, *configuration management*, and *Non-functional requirements check*.

After the process a total of 8 studies were selected. It shows that 3 studies applied multilevel DoD, meaning that to be done, a backlog item, must be checked during more than one development step, such as story, sprint, release, etc.

Regarding the context of the reported projects, most of the studies (7 papers) used Scrum as the agile method, and were performed in the industry (6 papers).

The studies indicate they were done as experience papers and solution proposal since most of them were used in industry. Based on quality assessment performed, we concluded that the quality of the studies from an evidence-based perspective is low.

Nevertheless, some studies show the use of DoD as a means of complementing the agile process and comply with external requirements such as for ISO 9001, CMMI audits, as well as the addition of activities for assuring the product quality.

Only unit testing criteria was present in 5 studies, while peer code review and acceptance test were present in 4 studies, and system test, integration test and static code review were found in 3 studies. This disagreement is expected, because the DoD is defined by team according to its context.

Studies indicate that the use of DoD bring some benefits to the projects. However, those benefits are not clear, since they differ among studies. The main benefits described are:

- Improved collaboration between teams;
- Increase productivity;
- Reduce technical debt;
- Reduce defects deferred and defects reopened;

Who is this briefing for?

Software engineering practitioners who want to make decisions about definition of done in agile projects based on scientific evidence.

Where the findings come from?

All findings of this briefing were extracted from the systematic review conducted by Silva et al.

What is included in this briefing?

The main findings of the original systematic review.

Evidence characteristics through a brief description about the original systematic review and the studies it analized.

What is not included in this briefing?

Details about the process performed to achieve results presented in this briefing report.

To access other evidence briefings on software engineering:

http://ease2017.bth.se/

Silva et al. **A systematic review on the use of Definition of Done on agile software development projects**. In *Proceedings of the 21st International Conference on Evaluation and Assessment in Software Engineering* (EASE'17). 2017