TECHNICAL DEBT AT THE CODE LEVEL

This briefing reports scientific evidence on technical debt at the code level based on a survey answered by Brazilian developers. We analyzed technical debt considering developers' self-evaluation and their opinion about other developers.

FINDINGS

- Developers believe that is their duty adopt best programming practices and they at least try to do it.

- Developers believe that they create less technical debt than other developers.

- Developers have the intention of producing high-quality code.

- Most developers (89% of the participants) have a correct general notion of what is technical debt.

- Developers consider **technology inexperience, bad code, work overload, pressure, and time** the main factors to create technical debt.

- Developers believe that other developers are more affected by the factors to create technical debt than themselves.

- All presented programming practices (**code review, TDD, continuous integration, automated tests, pair programming, code tools and backlog**) were considered good practices to prevent technical debt by developers, being **code review the most relevant one**.

- Most of the presented programming practices seem to not be adopted in practice, except code review, which was pointed out as an adopted practice to prevent technical debt.

- Developers answered that all reasons (awareness, available time, co-change, request) presented are relevant to make TD payments.

- Concerning **self perspective**, developers believe that **time** is the most important reason to make technical debt payments.

- Concerning **other developers**, in addition to **time, co-change and request** were also considered relevant to make technical debt payments.

- It is important to reinforce the adoption of such practices, mainly code review.

Who is this briefing for?

Software engineering practitioners who want to make decisions about the prevention and management of technical debt at the code level based on scientific evidence.

Where the findings come from?

All findings of this briefing were extracted from the survey conducted by Rocha et al. involving 74 participants.

What is included in this briefing?

The main findings derived from a survey that investigated the reasons to create technical debt, prevent its creation and make technical debt payments.

For additional information about the Prosoft research group:

http://www.inf.ufrgs.br/prosoft

ORIGINAL RESEARCH REFERENCE
Rocha et al. *Understanding Technical Debt at the Code Level from the Perspective of Software Developers*. SBES, 2017.