



Time to Pay Up

Technical Debt From a Software Quality Perspective

Survey

Terese Besker

Computer Science and Engineering Chalmers University of Technology Göteborg, Sweden besker@chalmers.se

Antonio Martini

Computer Science and Engineering Chalmers University of Technology Göteborg, Sweden antonio.martini@chalmers.se

Jan Bosch

Computer Science and Engineering Chalmers University of Technology Göteborg, Sweden jan.bosch@chalmers.se

The following slides presents the online survey

- The survey consists of three different sections:
 - Information and instructions to the participants
 - Background data
 - Quality issues and Challenging issues

10/25/2016 Chalmers 2

Invitation published on LinkedIn

Survey on Technical Debt

At Software Center in Sweden we are rolling out a world-wide global survey on software quality and with a focus on technical debt and how much extra time we spend on fixing issues related to poor software quality.

I would like to invite You all (developers, testers, architects, project/product managers) to participate in the survey and as thanks, all respondents will be able to take part of the results and be entered into a prize draw to win an iPad Air.

https://www.surveymonkey.com/r/LinkedIn1A









Software Development and Technical Debt

1. Thank you for participating in our survey. Your feedback is important.

When answering the questions, please think about a system that you are (or have recently been) actively involved in. It is important for the validity of the answers that you have a deep knowledge and understanding of the system(s) that you refer to.

As a "thank you" for your participation, once you have completed the survey, you will participate in a lottery for winning an **iPad Air.** Also, you will be able to receive the **results** of the survey and to know the answers from many other software practitioners.

The survey takes about **10 minutes** to complete and is **anonymous**: your name will not be connected to any of the results (it will only be used for the lottery and **only if you decide so**).

We appreciate the time you take to fill it in!

Contact details: besker@chalmers.se antonio.martini@chalmers.se





Software Development and Technical Debt

2. Background

*1 How many years of experience in the Software Development area do you have?	
< 2 years	
2 - 5 years	
5 - 10 years	
>10 years	
*(2) What is your job role?	
O Project Manager	
O Product Manager	
O Software Architect	
Oeveloper/Programmer/Software Engineer	
○ Tester	
○ Expert	
Other (please specify)	



Female

() Male

Other / Don't want to share

* What is the highest level of education you have completed?

No University education

Bachelor degree

Master degree (or Civilingenjör)

Ph.D. degree

Other:

 * $_{\odot}$ How big is your software development team?

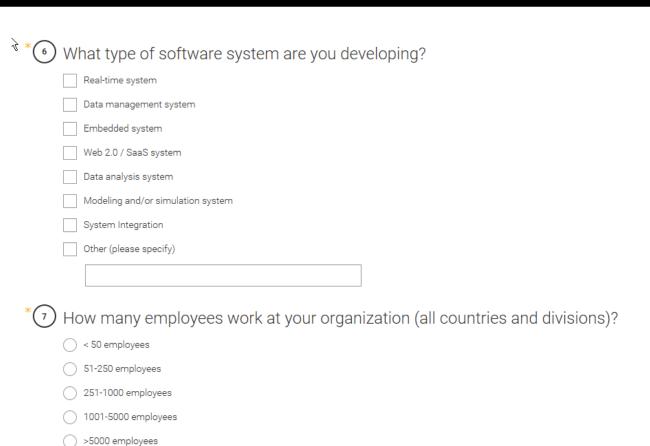
1-5 team members

6-10 team members

11-20 team members

21-40 team members

> 40 team members





< 100 k LOC

100-1 M LOC

1 M-10 M LOC

10 - 50 M LOC

>50 M LOC

Oon't know

* (9) How old is the software you are developing (from initial design)?

< 2 years</p>

2-5 years

5-10 years

10-20 years

>20 years

Which of the following challenges generate the most negative impact on your daily software development work?

Please **rank** them from 1 to 11 (map one impact to each number)

(do not consider fixing and managing the issues, just if they hinder you when you add/change/understand the system)

	1. Least negative impact	2.	3.	4.	5.	6.	7.	8.	9.	10.	11. Most negative impact
Lack or low quality of testing	0	0	0	0	0	0	0	0	0	0	
Low code quality	\circ	\circ	\circ	\circ	\circ	\circ	\circ	\circ	\circ	\circ	0
Lack or low quality of requirement	\circ	\bigcirc									
Lack or low quality of documentation	\circ	\bigcirc	\bigcirc	\bigcirc	\circ	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\circ	\circ
Dependency violations	\circ	\bigcirc									
Complex architectural design	\circ	\bigcirc									
Too many different patterns and policies	\circ	\bigcirc									
Dependencies to external resources/software	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\circ
Uneasy/Tensed social interactions between different stakeholders	\circ	\bigcirc									
Lack of adequate environment and infrastructure during development	\circ	\bigcirc	\circ								
Lack of reusablity in design		\bigcirc	\circ								

During the software life cycle, you might encounter some of the following **issues**.

How often do you experience them?

	Very Frequently	Frequently	Occasionally	Rarely	Never
I experience restricted reusability of the software					
I experience maintenance difficulties (analyzing and fixing defects)	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
I experience a limited ability to add new features and change the existing system	\circ	\bigcirc	\circ	\bigcirc	\circ
I experience performance degradations of the software			\bigcirc	\bigcirc	\bigcirc
I experience poor reliability of the software					
Other (please specify)					