An Architectural Technical Debt IndeX (ATDx) - Survey

Dear Participant,

Thank you for considering to participate in this study!

We are a group of researchers from the Vrije Universiteit Amsterdam (The Netherlands) and the Carnegie Mellon University Software Engineering Institute (USA). We seek your feedback on an architectural technical debt index (ATDx) we developed. ATDx provides data-driven information about a given project's architectural design choices which, while being suitable or even optimal when adopted, lower the maintainability and evolvability of the system in the long term, hindering future development activities, hence accumulating technical debt.

In this survey:
- you will be asked to answer 8 brief questions about ATDx, based on our analysis results of the OSS projects you contributed to
- your answers will only be stored and used in an anonymized form
- you will be done in 10 minutes

The target respondents for this questionnaire are contributors involved in open-source projects.

If you would like to receive the final research report just provide your email at the end of the survey.

Let's go to the first question!

*Required

Your experience in software development

1. How many years have you been developing software? *

2. How many open source software projects have you contributed to in your career? *

Mark only one oval.

- ◯ 1
- ◯ Between 2 and 5
- ◯ Between 6 and 10
- ◯ More than 10

Your familiarity with the OSS projects

In the mail with the link to this survey, we shared our analysis of a set of OSS projects you contributed to.
The following question is to understand your familiarity with such projects.

3. On average, how familiar are you with the projects? *

Mark only one oval.

- ◯ Extremely familiar (regular contributor, check in code often)
- ◯ Very familar (occasional contributor)
- ◯ Moderately familiar (have looked at its artifacts, read its code, can contribute easily)
- ◯ Slightly familiar (use the OSS, but do not know the code structure)
- ◯ Not familiar

ATDx in your projects

Answer the following questions by considering the analysis results of the OSS projects we shared with you.

As displayed in the diagrams, our index is composed of 6 types of architectural technical debt:

1. Threading: issues related to the implementation of multiple execution threads
2. Interface: issues related to the usage of Java interfaces
3. Inheritance: issues related to the inheritance mechanisms between classes
4. Complexity: issues related to complex code
5. JVMS: issues related to the Java Virtual Machine
6. Exception: issues related to the Java throwable class “Exception” and its subclasses

4. By looking individually at each project: The radar-chart values reflect the project's current state of architectural debt *

Mark only one oval.

- ◯ Strongly agree
- ◯ Agree
- ◯ Neutral
- ◯ Disagree
- ◯ Strongly Disagree

5. Comments?

6. By looking at all projects together: The radar charts reflect the differences in architectural debt present in the projects *

Mark only one oval.

- ◯ Strongly agree
- ◯ Agree
- ◯ Neutral
- ◯ Disagree
- ◯ Strongly Disagree

7. Comments?

8. The architectural debt types displayed in the radar-chart are a good representation of architectural debt *

Mark only one oval.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

9. Comments?

10. Do you miss any architectural debt type? If so, which one(s)?

11. The results displayed in the radar charts inspire me to take action *

Mark only one oval.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

12. Comments?

13. How would you use the radar-charts in your current practice?

Submit your answers

Thank you! Please, do not forget to click on the Submit button at the bottom of this page!

14. Do you have any final comments or suggestions?

15. Your e-mail address

Optional, we will use it only once for sending the results of our study

This research is carried out jointly by the Vrije Universiteit Amsterdam (The Netherlands), and the Carnegie Mellon University Software Engineering Institute (USA).

For any question or comment, do not hesitate to contact free to contact us at:
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