Study on annotating implementation and design choices

Annotations Protocol Investigation

1. How frequently do you insert comments for annotating your implementation and design choices? *

   Mark only one oval.

   ( ) Never

   ( ) Less than 25% of my development tasks

   ( ) Between 25% and 75% of my development tasks

   ( ) More than 75% of my development tasks

2. How frequently do you insert comments for annotating delayed or intended work activities such as TODO, FIXME, hack, workaround, etc? *

   Mark only one oval.

   ( ) Never

   ( ) Less than 25% of my development tasks

   ( ) Between 25% and 75% of my development tasks

   ( ) More than 75% of my development tasks

3. Does your organisation have specific policies reguarding the addition of annotations for the implementation and design choices? If yes, please describe them. *

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4. Does your organisation have specific policies reguarding the addition of annotations for delayed or intended work activities such as TODO, FIXME, hack, workaround, etc? If yes, please describe them. *

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5. What are the tracing mechanism mainly used for annotating your implementation and design choices? *

Tick all that apply.

- [ ] Source Code
- [ ] Task Management Tools (e.g., Trello)
- [ ] Internal Mailing List
- [ ] Messaging Apps (e.g., Slack)
- [ ] Code Reviews or Pull Requests
- [ ] Issue Trackers
- [ ] Commit Messages
- [ ] Internal/Private Documents/Sheets

Other: [ ] _____

6. While annotating your implementation and design choices in the source code do you rely on IDE-supported annotations (e.g., automatically generated TODO)? *

Mark only one oval.

○ No, I do not use annotations at all

○ No, I ignore the IDE-supported annotations

○ Yes, and I will not spend time in modifying their content

○ Yes, but I will spend time modifying their content addign more useful information

○ Other: _____

7. What are the main motivations for annotating the implementation and design choices? *

Tick all that apply.

☐ Reminder for yourself

☐ Reminder for the community, the development team, or the whole organization who could understand and improve the source code later on

☐ Reminder for newcomers joining/contributing to the project

☐ Annotating the presence of a misbehavior, to make everybody aware that the implementation and/or the design is not in the right shape as it should be

Other: ☐ _____

8. What are the main motivations for not annotating your implementation and design choices? *

Tick all that apply.

☐ Lack of time

☐ I remember perfectly whether any portion of my source code needs to be improved

☐ I am shy reporting that my code is not in the right shape

Other: ☐ _____

9. What is the typical content that you usually include while annotating delayed or intended work activities such as TODO, FIXME, hack, workaround, etc? *

Tick all that apply.

- [ ] Just a TAG (e.g., TODO, FIXME) as reminder
- [ ] A sentence explaining that the source code needs to be refactored or, in general, re-designed to make it more maintainable
- [ ] A sentence explaining that the source code needs to be refactored or, in general, re-designed to improve performance
- [ ] A sentence explaining that the program might not properly behave under certain conditions
- [ ] A sentence explaining that we are using a sub-optimal API and a better one needs to be found (you are not aware of that or simply it is not available yet)
- [ ] A sentence explaining that the feature being implemented is not complete
- [ ] A sentence highlighting that your code is a temporary fix that will be modified after a specific event will occur (e.g., fix a bug, release of a new API, implementation of a feature elsewhere in the project)
- [ ] A sentence highlighting the presence of a BUG in the source code
- [ ] Other: _____

10. If you find an annotation reporting that the code is not in the right shape, in the code while implementing a new feature or improving an existing feature, what do you actually do? *

Tick all that apply.

- [ ] If I am the author of the admission, it simply reminds me that I have to find a proper solution
- [ ] If I am not the author of the annotation, I do not try to find a solution for it, but I will consider it while modifying the source code
- [ ] If I am not the author of the annotation, I try to find a solution for the problem stated in the annotation before applying further changes to the source code
- [ ] If I am not the author of the annotation, I simply ignore its content
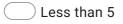- [ ] Other: _____

Demographics Information

11. What is your highest education qualification?

Mark only one oval.

◯ Ph.D.

◯ Master Degree

◯ Bachelor Degree

◯ Other: _____

12. How many years of development experience do you have?

Mark only one oval.

◯ Less than 5

◯ Between 5 and 10

◯ More than 10

13. Which is the domain of your organization?

Mark only one oval.

◯ Software Development Consulting

◯ Information Technology

◯ Financial and Banking

◯ Safety Critical Systems

◯ Software As A Service Development

◯ Web Development or Design

◯ Data and Analytics

◯ Health Care or Social Services

◯ Other: _____

14. Which is your role in your current organization?

Mark only one oval.

○ Software Developer

○ Software Tester

○ Manager

○ Database Administrator

○ Designer

○ System Administrator

○ DevOps Specialist

○ Data Scientist or Machine Learning Specialist

○ Researcher

○ Other: _____

15. What programming languages do you typically use in your development activities?

Tick all that apply.

☐ Java
☐ Python
☐ C
☐ Javascript
☐ Ruby
☐ PHP

Other: ☐ _____

16. Which IDEs do you usually use to develop code?

Tick all that apply.

- [ ] IntelliJ IDEA
- [ ] Eclipse
- [ ] NetBeans
- [ ] Dev-C++
- [ ] Visual Studio .NET
- [ ] Xcode
- Other: [ ] _____

17. What Kind of communication channels/SCM tools do you typically use?

Tick all that apply.

- [ ] Issues Trackers
- [ ] Pull Requests/Code Review Tools
- [ ] Mailing List
- [ ] SCRUMs board
- [ ] Chats and Other Communication Channels (e.g., Slack or IRC)
- Other: [ ] _____