Survey on Code Smells

PreTest – Questionnaire

Part 1 - Cover & Consent Information Letter

Q1.1 **Cover Letter**

Dear code smells researcher:

As a code smells researcher, we believe the following initiative will be of your interest.

In the scope of PhD research work, we performed a Systematic Literature Review (SLR) on code smells detection and visualization. As a noticeable researcher in the area of Code Smells Detection, as recognized in our SLR, we would like you to express your objective assessment in its findings before publication, which we plan to happen soon.

We will sincerely appreciate if you accept participating in this online survey, since your opinion is of utmost importance to validity of our conclusions and fine-tune our research strategy accordingly. In recognition for your effort (it will take around 10m) we will provide free first-hand access to our SLR to all respondents that fully complete the survey.

There are no wrong or right answers. We are just looking for honest answers that match your perception of reality as close and fairly as possible. For anonymity sake, no names or identification of respondents will appear in the PhD dissertation or anywhere else.

We truly appreciate your cooperation and personally thank you for your time and assistance in this matter. If you have any questions, please feel free to contact us.

Yours sincerely,

Q1.2 **Consent Information Letter**

Purpose
This study attempts to collect information to assess the conclusions of a Systematic Literature Review on the detection and visualization of code smells.

Participation Requirements
The questionnaire consists of 8 main questions and is expected not to take more than 10 minutes to complete.

Potential Risk/Discomfort
This survey has no risks associated with it. Moreover, you may withdraw at any time. You may also choose not to answer any question that you do not feel comfortable to answer or for which you are not sure of the answer.

Benefits
If you answer this survey until its completion, you will have first-hand access to the Systematic Literature Review that we have produced.

Anonymity/Confidentiality
Individual answers collected in this survey will be kept confidential. Only aggregated values will be reported.

Questions or Complaints
Should you have any questions or complaints about this study, you may contact the researchers whose name and contact information are provided above.

Thank you for participating in this study.

Sincerely,

Part 2 - Code smells detection techniques

Q2.1
SLR FINDING: The most frequently used code smells detection techniques are based on rule-based approaches.

- ○ Strong agreement (1)
- ○ Agreement (2)
- ○ Weak agreement (3)
- ○ Weak disagreement (4)
- ○ Disagreement (5)
- ○ Strong disagreement (6)

Q2.2 How do you rate your confidence degree while assessing the previous finding?

	Unsure | Sure |
()	

Q2.3 Optional justification or comments

_____

Q2.4
SLR FINDING: Very few code smells detection studies provide the oracles used.

- ○ Strong agreement (1)
- ○ Agreement (2)
- ○ Weak agreement (3)
- ○ Weak disagreement (4)
- ○ Disagreement (5)
- ○ Strong disagreement (6)

Q2.5 How do you rate your confidence degree while assessing the previous finding?

	Unsure | Sure |
()	

Q2.6 Optional justification or comments

_____

Q2.7
SLR FINDING: The most often detected code smells are God Class, Feature Envy and Long Method.

- ○ Strong agreement (1)
- ○ Agreement (2)
- ○ Weak agreement (3)
- ○ Weak disagreement (4)
- ○ Disagreement (5)
- ○ Strong disagreement (6)

Q2.8 How do you rate your confidence degree while assessing the previous finding?

	Unsure | Sure |
()	

Q2.9 Optional justification or comments

_____

Part 3 - Code smells detection effectiveness

Q3.1
SLR FINDING: In the detection of simpler code smells (e.g. Long Method or God Class), the achieved precision and recall of detection techniques can be very high (up to 100%).

- ○ Strong agreement (1)
- ○ Agreement (2)
- ○ Weak agreement (3)
- ○ Weak disagreement (4)
- ○ Disagreement (5)
- ○ Strong disagreement (6)

Q3.2 How do you rate your confidence degree while assessing the previous finding?

	Unsure | Sure |
()	

Q3.3 Optional justification or comments

_____

Q3.4
SLR FINDING: When the complexity of code smells is greater (e.g. Divergent Change or Shotgun Surgery), the precision and recall in detection are much lower than in simpler code smells.

- ○ Strong agreement (1)
- ○ Agreement (2)
- ○ Weak agreement (3)
- ○ Weak disagreement (4)
- ○ Disagreement (5)
- ○ Strong disagreement (6)

Q3.5 How do you rate your confidence degree while assessing the previous finding?

	Unsure | Sure |
()	

Q3.6 Optional justification or comments

_____

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Q3.7
SLR FINDING: There are few oracles shared and publicly available. The existence of a shared and collaborative oracle would be important for the improvement of code smells detection processes.

- ○ Strong agreement (1)
- ○ Agreement (2)
- ○ Weak agreement (3)
- ○ Weak disagreement (4)
- ○ Disagreement (5)
- ○ Strong disagreement (6)

Q3.8 How do you rate your confidence degree while assessing the previous finding?

	Unsure | Sure |
()	

Q3.9 Optional justification or comments

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Part 4 - Code smells visualization

Q4.1
SLR FINDING: The vast majority of code smells detection studies do not propose visualization features for their detection.

- ○ Strong agreement (1)
- ○ Agreement (2)
- ○ Weak agreement (3)
- ○ Weak disagreement (4)
- ○ Disagreement (5)
- ○ Strong disagreement (6)

Q4.2 How do you rate your confidence degree while assessing the previous finding?

	Unsure | Sure |
()	

Q4.3 Optional justification or comments

_____

Q4.4
SLR FINDING: The vast majority of existing code smells visualization studies are not targeted to large software systems.

- ○ Strong agreement (1)
- ○ Agreement (2)
- ○ Weak agreement (3)
- ○ Weak disagreement (4)
- ○ Disagreement (5)
- ○ Strong disagreement (6)

Q4.5 How do you rate your confidence degree while assessing the previous finding?

	Unsure | Sure |
()	

Q4.6 Optional justification or comments

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Part 5 - Respondents' info

Q5.1 **OPTIONAL**

Do you want to have first-hand access to the Systematic Literature Review?

- ○ Yes (1)
- ○ No (2)

Display This Question:

If Q5.1 = 1

Q5.2
Please provide your **Email address** below.

NOTE: You will not be identified in any report that is produced using the information you have provided in this questionnaire and your email will not be used for any other purpose, except for sending you the SLR.

- ○ Email address (3) _____