

Supervisor's statement of a final thesis

Czech Technical University in Prague

Faculty of Information Technology

Student: Jakub Nesveda
Supervisor: Ing. Jan Vraný, Ph.D.
Thesis title: API pro generování kódu a refaktoring
Branch of the study: Software Engineering (Bachelor)

Date: 13. 5. 2015

<p><i>Evaluation criterion:</i></p> <p>1. Difficulty and other comments on the assignment</p> <p><i>Criteria description:</i> Characterize this final thesis in detail and its relationships to previous or current projects. Comment what is difficult about this thesis (in case of a more difficult thesis, you may overlook some shortcomings that you would not in case of an easy assignment, and on the contrary, with an easy assignment those shortcomings should be evaluated more strictly.)</p> <p><i>Comments:</i> At first glance the assignment may look straightforward. However, it requires a good knowledge of refactoring framework used in Smalltalk/X (and in other smalltalks). The framework is old and poorly documented if at all, which makes it difficult to work with.</p>	<p><i>The evaluation scale: 1 to 5.</i></p> <p>1 = extremely challenging assignment, 2 = rather difficult assignment, 3 = assignment of average difficulty, 4 = easier, but still sufficient assignment, 5 = insufficient assignment</p>
<p><i>Evaluation criterion:</i></p> <p>2. Fulfilment of the assignment</p> <p><i>Criteria description:</i> Assess whether the thesis meets the assignment statement. In Comments indicate parts of the assignment that have not been fulfilled, completely or partially, or extensions of the thesis beyond the original assignment. If the assignment was not completely fulfilled, try to assess the importance, impact, and possibly also the reason of the insufficiencies.</p> <p><i>Comments:</i> Assigned problem has been fully addressed.</p>	<p><i>The evaluation scale: 1 to 4.</i></p> <p>1 = assignment fulfilled, 2 = assignment fulfilled with minor objections, 3 = assignment fulfilled with major objections, 4 = assignment not fulfilled</p>
<p><i>Evaluation criterion:</i></p> <p>3. Size of the main written part</p> <p><i>Criteria description:</i> Compare the size of the written part with the expected size (without appendices), see the Dean's Directive No. 9/2011, Article 3. To evaluate the thesis it is also important that all parts of the written part are rich on information and necessary for a final thesis. The text should not contain unnecessary parts.</p> <p><i>Comments:</i> The text of the thesis covers all aspects of the work in a clear and concise way.</p>	<p><i>The evaluation scale: 1 to 4.</i></p> <p>1 = meets the criteria, 2 = meets the criteria with minor objections, 3 = meets the criteria with major objections, 4 = does not meet the criteria</p>
<p><i>Evaluation criterion:</i></p> <p>4. Factual and logical level of the thesis</p> <p><i>Criteria description:</i> Assess whether the thesis is correct as to the facts or if there are factual errors and inaccuracies. Evaluate further the logical structure of the thesis, links among the chapters, and the comprehensibility of the text for a reader.</p> <p><i>Comments:</i> The text of the thesis is logical and reads easily.</p>	<p><i>The evaluation scale: 0 to 100 points (grade A to F).</i></p> <p>100 (A)</p>
<p><i>Evaluation criterion:</i></p> <p>5. Formal level of the thesis</p> <p><i>Criteria description:</i> Assess the correctness of formalisms used in the thesis, the typographical and linguistic aspects, see Dean's Directive No. 9/2011, Article 3.</p> <p><i>Comments:</i> I have no comments regarding formal aspects of the thesis.</p>	<p><i>The evaluation scale: 0 to 100 points (grade A to F).</i></p> <p>100 (A)</p>
<p><i>Evaluation criterion:</i></p> <p>6. Bibliography</p> <p><i>Criteria description:</i> Evaluate the student's activity in acquisition and use of studying materials in his thesis. Characterize the choice of the sources. Discuss whether the student used all relevant sources, or whether he tried to solve problems that were already solved. Verify that all elements taken from other sources are properly differentiated from his own results and contributions. Comment if there was a possible violation of the citation ethics and if the bibliographical references are complete and in compliance with citation standards.</p>	<p><i>The evaluation scale: 0 to 100 points (grade A to F).</i></p> <p>100 (A)</p>

Comments:

There are not much resources regarding refactoring support in smalltalk systems. All cited papers and documents are relevant.

Evaluation criterion:

The evaluation scale: 0 to 100 points (grade A to F).

7. Evaluation of results, publication outputs and awards

100 (A)

Criteria description:

Comment on the achieved level of major results of the thesis and indicate whether the main results of the thesis extend published state-of-the-art results and/or bring completely new findings. Assess the quality and functionality of hardware or software solutions. Alternatively, evaluate whether the software or source code that was not created by the student himself was used in accordance with the license terms and copyright. Comment on possible publication output or awards related to the thesis.

Comments:

Resulting source code is of a high quality, the code is well structured and well tested by an extensive test suite. This makes further development a lot easier.

It also shows that author has good software engineering habits.

Evaluation criterion:

No evaluation scale.

8. Applicability of the results

Criteria description:

Indicate the potential of using the results of the thesis in practice.

Comments:

The main result of the thesis - a library for Smalltalk/X - provides a ready-to-use framework for defining a custom refactorings or code generators.

Adding a new one is as easy as creating a single class and implementing couple methods. The text of thesis contains a chapter describing this

in an easy to follow steps. Moreover it allows for composition of generators or refactorings so one can easily automate more complex tasks by simple composition of individual actions.

The code will be soon integrated in Smalltalk/X jv-branch and therefore will be used in real environment for developing other software.

Evaluation criterion:

The evaluation scale: 1 to 5.

9. Activity and self-reliance of the student

9a:

1 = excellent activity,

2 = very good activity,

3 = average activity,

4 = weaker, but still sufficient activity,

5 = insufficient activity

9b:

1 = excellent self-reliance,

2 = very good self-reliance,

3 = average self-reliance,

4 = weaker, but still sufficient self-reliance,

5 = insufficient self-reliance.

Criteria description:

Review student's activity while working on this final thesis, student's punctuality when meeting the deadlines and consulting continuously and also, student's preparedness for these consultations. Furthermore, review student's independency.

Comments:

The author of the thesis worked independently. All my comments were promptly addressed. During the work a many little problems arose and Mr. Nesveda always suggested a solution.

Evaluation criterion:

The evaluation scale: 0 to 100 points (grade A to F).

10. The overall evaluation

100 (A)

Criteria description:

Summarize the parts of the thesis that had major impact on your evaluation. The overall evaluation **does not** have to be the arithmetic mean or any other formula with the values from the previous evaluation criteria 1 to 9.

Comments:

The result of the thesis is excellent and far exceeded my expectations for a bachelor thesis. The result of the thesis is readily usable and certainly will be integrated.

It clearly shows that the author is an experienced software engineer capable of working in complex systems.

The thesis fully deserves an A.

Signature of the supervisor: