

Supervisor's statement of a final thesis

Supervisor: Ing. Filip Křikava, Ph.D.

Student: Ondřej Kvapil

Thesis title: Haskell Dynamic Tracing

Branch / specialization: Computer Science

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Evaluation criteria

1. Fulfillment of the assignment

- ▶ [1] assignment fulfilled
 - [2] assignment fulfilled with minor objections
 - [3] assignment fulfilled with major objections
 - [4] assignment not fulfilled

The assignment was fulfilled.

2. Main written part

95/100 (A)

The thesis is well written. I would just have liked to have more examples about its current use and in the future a better discussion about the road ahead.

3. Non-written part, attachments

95/100 (A)

The implementation turned out to be quite tricky (more than I would have imagined) and Ondrej did a great job of 1. not giving up and 2. quickly understanding large code bases (GHC is a monster).

There are a few issues, but they should all be fairly easy to fix.

4. Evaluation of results, publication outputs and awards

100/100 (A)

This thesis presents the first step in a longer-term goal: look at how laziness is used in real-world Haskell code. I hope Ondrej will continue working with us (PRL lab) on this so we can turn all this endeavor into a publication at OOPSLA or ICFP.

5. Activity of the student

▶ [1] excellent activity

[2] very good activity

- [3] average activity
- [4] weaker, but still sufficient activity
- [5] insufficient activity

We had weekly meetings where Ondrej showed what he has done. He was always ready to dive into the code. He also did a nice code walk of GHC for our reading group. He also gave a nice demo to Vytali Bragilevsky (the thesis opponent)

6. Self-reliance of the student

- ▶ [1] excellent self-reliance
 - [2] very good self-reliance
 - [3] average self-reliance
 - [4] weaker, but still sufficient self-reliance
 - [5] insufficient self-reliance

Ondrej knows what is doing. He managed to learn a lot in a fairly short time. He was actively seeking help at Haskell IRC channels as there are many parts of the Haskell compiler that is not that well documented and just a few people understand them.

The overall evaluation

100/100 (A)

Despite that, the project turned to be much harder than I thought, Ondrej manager really well. It was a pleasure to work with him.

Instructions

Fulfillment of the assignment

Assess whether the submitted FT defines the objectives sufficiently and in line with the assignment; whether the objectives are formulated correctly and fulfilled sufficiently. In the comment, specify the points of the assignment that have not been met, assess the severity, impact, and, if appropriate, also the cause of the deficiencies. If the assignment differs substantially from the standards for the FT or if the student has developed the FT beyond the assignment, describe the way it got reflected on the quality of the assignment's fulfilment and the way it affected your final evaluation.

Main written part

Evaluate whether the extent of the FT is adequate to its content and scope: are all the parts of the FT contentful and necessary? Next, consider whether the submitted FT is actually correct – are there factual errors or inaccuracies?

Evaluate the logical structure of the FT, the thematic flow between chapters and whether the text is comprehensible to the reader. Assess whether the formal notations in the FT are used correctly. Assess the typographic and language aspects of the FT, follow the Dean's Directive No. 26/2017, Art. 3.

Evaluate whether the relevant sources are properly used, quoted and cited. Verify that all quotes are properly distinguished from the results achieved in the FT, thus, that the citation ethics has not been violated and that the citations are complete and in accordance with citation practices and standards. Finally, evaluate whether the software and other copyrighted works have been used in accordance with their license terms.

Non-written part, attachments

Depending on the nature of the FT, comment on the non-written part of the thesis. For example: SW work – the overall quality of the program. Is the technology used (from the development to deployment) suitable and adequate? HW – functional sample. Evaluate the technology and tools used. Research and experimental work – repeatability of the experiment.

Evaluation of results, publication outputs and awards

Depending on the nature of the thesis, estimate whether the thesis results could be deployed in practice; alternatively, evaluate whether the results of the FT extend the already published/known results or whether they bring in completely new findings.

Activity of the student

From your experience with the course of the work on the thesis and its outcome, review the student's activity while working on the thesis, his/her punctuality when meeting the deadlines and whether he/she consulted you as he/she went along and also, whether he/she was well prepared for these consultations.

Self-reliance of the student

From your experience with the course of the work on the thesis and its outcome, assess the student's ability to develop independent creative work.

The overall evaluation

Summarize which of the aspects of the FT affected your grading process the most. The overall grade does not need to be an arithmetic mean (or other value) calculated from the evaluation in the previous criteria. Generally, a well-fulfilled assignment is assessed by grade A.