**FACULTY
OF INFORMATION
TECHNOLOGY
CTU IN PRAGUE**

Supervisor's statement of a final thesis

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Student: Vojtěch Rozhoň
Thesis title: SECD Virtual Machine Debugger
Branch / specialization: Computer Science
Created on: 20 May 2022

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 thesis defines and fulfils its goals very well.

2. Main written part   100 / 100 (A)

The student has agreed to write the thesis in English, which is not his native language
and did so rather well. Although not perfect, the thesis reads well and all the important
points are clearly communicated to the reader.

3. Non-written part, attachments   90 / 100 (A)

The lambdulus module that is part of the thesis is well written and works flawlessly with
the existing infrastructure, which in itself is a complex task. Furthermore the code is well
structured and easily maintainable.

4. Evaluation of results, publication outputs and awards   85 / 100 (B)

Some parts of the implementation are non-standard and therefore would make using the
code itself in the course a bit problematic (namely the compiler architecture going from
ASTs to SECD directly w/o S expressions in the middle and the effects this has on the
macro preprocessor). But those design choices do not hinder the usability of the module
as a SECD visualizer and debugger. I believe if the student would wish to continue
working on the project and those were fixed it may lead to a publication similarly to the
original Lambdulus project, i.e. on education targeted conferences and workshops.

5. Activity of the student

▸ [1] **excellent activity**
   [2] very good activity
   [3] average activity
   [4] weaker, but still sufficient activity
   [5] insufficient activity

Excellent. The student possesses the drive and self-organization necessary for fulfilment of larger tasks like a thesis. He was not only always on time, but also flexible with our schedule, always prepared for the talks when they took place.

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

The self-reliance is really excellent, up to the point that should some decisions were discussed sooner (i.e. smaller self reliance) my remarks about the results could be moot. However, even without the consultations the solutions the student came up with are indeed working.

The overall evaluation   95 /100 (A)

Overall I am very pleased with the outcome of the thesis and we plan to use it in next year's iteration of the BI-PPA course. If the student would like to continue working on the topic, then it may even be possible to completely replace the Racket taught in the course with his tiny Lisp implementation.

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. 52/2021, 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.