Supervisor's statement of a final thesis

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Supervisor: Ing. Filip Křikava, Ph.D.
Thesis title: SWM - Simple Window Manager
Branch of the study: System Programming

Date: 9. 6. 2020

Evaluation criterion:	The evaluation scale: 1 to 4.
1. Fulfilment of the assignment	**1 = assignment fulfilled,** 2 = assignment fulfilled with minor objections, 3 = assignment fulfilled with major objections, 4 = assignment not fulfilled

Criteria description:
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.

Comments:
The result is a working window manager (WM) for the X11 windowing system that fulfills the requirements.

Evaluation criterion:	The evaluation scale: 0 to 100 points (grade A to F).
2. Main written part	*95 (A)*

Criteria description:
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.

Comments:
The thesis is well written. It has all the required parts. The design and implementation chapters do a good job at presenting the essential parts of the WM. The background chapter could have been reduced as it is not necessary to write yet another X11 programming tutorial. Although, I understand the author's motivation to have the thesis self-contained as much as possible. The world of X11 and X11 WMs is rather large and complex. Therefore it is not easy to provide short, easy-to-read yet comprehensive digest.

Evaluation criterion:	The evaluation scale: 0 to 100 points (grade A to F).
3. Non-written part, attachments	*95 (A)*

Criteria description:
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.

Comments:
Implementing a window manager for X11 that is ICCCM and EWMH compliant is not easy. It requires to understand how the underlying X11 protocol works with all its idiosyncrasies. The author managed to write a fully functional WM which is not only ICCCM and EWMH compliant, but the code is easy to follow and it is well organized.
There are a few places that could be refactored with somewhat a better abstraction (e.g. the command framework), but overall it is well done. I believe that the result is indeed a hack-able WM with a clear and flexible architecture. Unlike many of the other WM, SWM also comes with tests.

Evaluation criterion:	The evaluation scale: 0 to 100 points (grade A to F).
4. Evaluation of results, **publication outputs and awards**	*95 (A)*

Criteria description:
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.

Comments:

This has been rather an engineering thesis. The written part could well server as a in-depth reading for someone who would like to understand how WM work on X11 and how to implement one. The code is open-source, hosted on GitHub which will hopefully attract other contributors. I would recommend writing a blog post about it and making a bit of an advertisement campaign on HackerNews, Reddit, etc.

Evaluation criterion:	The evaluation scale: 1 to 5.
5. Activity and self-reliance of the student	5a: **_1 = excellent activity,_** _2 = very good activity,_ _3 = average activity,_ _4 = weaker, but still sufficient activity,_ _5 = insufficient activity_ 5b: **_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:
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 (5a). Assess the student's ability to develop independent creative work (5b).

Comments:

After a few initial consultations, the student worked completely independently. He has delivered the code and thesis on time. We had only a few iterations over the code and the thesis which from the first draft was of a high quality.

Evaluation criterion:	The evaluation scale: 0 to 100 points (grade A to F).
6. The overall evaluation	95 (A)

Criteria description:
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.

Comments:

The result of this thesis is a hack-able fully-featured, testable and standard-compliant window manager for the X11 windowing system. Both the written part as well as the implementation part were well executed.

Signature of the supervisor: