



# Supervisor's statement of a final thesis

**Supervisor:** Ing. Daniel Sedlák  
**Student:** Bc. Jan Chybík  
**Thesis title:** Build pipeline for edge computing applications  
**Branch / specialization:** System Programming  
**Created on:** 25 May 2024

## 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

All tasks specified within the thesis statement have been successfully fulfilled.

### 2. Main written part 90/100 (A)

The student writes the thesis in English, which is, of course, more difficult than in Czech. The logical continuity is fine, the work is easy to read and thanks to it, it is possible to grasp a relatively complex topic even for a less experienced readers. The technical parts are explained properly and cleanly. The text contains minor typos and sometimes strangely worded sentences. The number of citations corresponds to the scope of the work. However, the subchapter Related work is very brief and could probably be extended by other papers or elaborate more about the already mentioned papers. Furthermore, the chapter WebAssembly could have more examples with wasm source code.

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

The build pipeline is written in Rust programming language, which I consider a great choice for this software running untrusted code especially for its security guarantees. The tooling and technologies selected for the thesis creation were selected correctly. Student worked almost entirely independently on the development of the service and achieved sufficient quality for production deployment.

#### **4. Evaluation of results, publication outputs and awards** 100 /100 (A)

The results of the final thesis are, with minor modifications, directly used as part of the edge computing solution of the worldwide CDN service. The text of the thesis is an excellent source of information for anyone who is faced with the same problems on a similar scale.

#### **5. Activity of the student**

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

The student was very active, and we were meeting frequently. Furthermore, the student kept me up-to-date with everything regarding the progress.

#### **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 student was above average independent during the work, except for the delivery of the necessary hardware (for hosting the build pipeline), he arranged practically everything himself.

### **The overall evaluation** 93 /100 (A)

The thesis introduces the non-trivial development of the solution that needs to withstand the production environment of a worldwide CDN company. The author had to study and understand a lot of different technologies at a detailed level. The source code is implemented in Rust language at a good level of quality and is easily extendable. Due to the reasons written above, I do recommend the thesis for defense and acceptance.

## **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.