

## I. IDENTIFICATION DATA

<b>Thesis title:</b>	<b>Fleet Electrification Decision Support Tool</b>
<b>Author's name:</b>	<b>Vít Šenfeld</b>
<b>Type of thesis :</b>	Bachelor
<b>Faculty/Institute:</b>	Faculty of Electrical Engineering
<b>Department:</b>	Department of Cybernetics
<b>Thesis reviewer:</b>	Maria Rigaki
<b>Reviewer's department:</b>	Department of Computer Science

## II. EVALUATION OF INDIVIDUAL CRITERIA

<b>Assignment</b>	<b>A - excellent.</b>
<i>How demanding was the assigned project?</i>	
The project was quite demanding. It required some research on existing solutions and prior work in the area as well as development of a solution that fulfilled the predefined goals. In addition, it required integrating multiple components that were developed by third parties and collaborating with others in order to finish the project.	

<b>Fulfilment of assignment</b>	<b>A - excellent.</b>
<i>How well does the thesis fulfill the assigned task? Have the primary goals been achieved? Which assigned tasks have been incompletely covered, and which parts of the thesis are overextended? Justify your answer.</i>	
All the main goals of the thesis as stated in the initial assignment and the thesis itself have been met successfully.	

<b>Methodology</b>	<b>B - very good.</b>
<i>Comment on the correctness of the approach and/or the solution methods.</i>	
The selection of the software components is sensible. It would have helped to have a diagram with a pictorial representation of the components developed by the student versus the ones developed by others. However, the decisions were sound and based on the stated requirements. The metrics proposed are sensible and the limitations of some of them are also discussed.	

<b>Technical level</b>	<b>B - very good.</b>
<i>Is the thesis technically sound? How well did the student employ expertise in the field of his/her field of study? Does the student explain clearly what he/she has done?</i>	
The justification of the proposed metrics was quite sound. Where needed the student used prior work to design the metrics. However, the description of said metrics was confusing in some places. For example, there are parameters in the different scores that are not explained until table 3.1 at the end of the methodology chapter. The implementation chapter could have been a bit clearer too and a few UML (or similar) diagrams could have made it easier to follow.	

<b>Formal and language level, scope of thesis</b>	<b>C - good.</b>
<i>Are formalisms and notations used properly? Is the thesis organized in a logical way? Is the thesis sufficiently extensive? Is the thesis well-presented? Is the language clear and understandable? Is the English satisfactory?</i>	
The thesis was extensive enough and organized in a good way. Chapter 2.2 could have been a separate chapter because it is mostly about the tool requirements rather than prior work. The written text was a bit hard to follow in some places. First-person pronouns are fine when someone describes their own work but mixing "I" and "we" in adjacent sentences creates confusion to the reader.	

<b>Selection of sources, citation correctness</b>	<b>A - excellent.</b>
<i>Does the thesis make adequate reference to earlier work on the topic? Was the selection of sources adequate? Is the student's original work clearly distinguished from earlier work in the field? Do the bibliographic citations meet the standards?</i>	
Related works are presented adequately and give a good background to the reader to understand the work.	

**Additional commentary and evaluation (optional)**

*Comment on the overall quality of the thesis, its novelty and its impact on the field, its strengths and weaknesses, the utility of the solution that is presented, the theoretical/formal level, the student's skillfulness, etc.*

**III. OVERALL EVALUATION, QUESTIONS FOR THE PRESENTATION AND DEFENSE OF THE THESIS, SUGGESTED GRADE**

*Summarize your opinion on the thesis and explain your final grading. Pose questions that should be answered during the presentation and defense of the student's work.*

The grade that I award for the thesis is **B - very good**.

The thesis deals with an interesting topic and presented the problem and the prior work adequately. It fulfilled all the initial goals and the final result is working as expected. The document was structured well in the most part and the technical approach was sound. The writing could have been better, not just regarding the English language but also in the way some parts of the methodology and implementation were presented and described.

**Questions for the thesis presentation**

- In Eq. 3.4 it seems that if the EV reaches its destination earlier than necessary, it will still be penalized because the  $\text{delay\_activity}$  will be negative and this value will be squared in the calculation of the activity delay score (Eq. 3.2). Shouldn't the  $\text{min\_delay\_activity}$  be bounded to 0?
- The green score is based on the calculation of the CO<sub>2</sub> emissions per kWh for EVs or per liter of petrol consumption for CVs. It is unclear why the CV pollution (3.10) is not the total number of liters consumed. With the current formulation of Eq. 3.10, it seems that one assigns 100km to 1 liter of fuel. Can you please clarify the decision for using this constant in Eq. [3.10](#)?

Date: 7.6.2021

Signature: