



Supervisor's statement of a final thesis

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Supervisor: Bc. Martin Pozděna, MSc
Thesis title: Automated tool for CAN bus message mapping
Branch of the study: Computer Security and Information technology

Date: 5. 6. 2020

<i>Evaluation criterion:</i>	<i>The evaluation scale: 1 to 4.</i>
1. Fulfilment of the assignment	<u>1 = assignment fulfilled,</u> 2 = assignment fulfilled with minor objections, 3 = assignment fulfilled with major objections, 4 = assignment not fulfilled
<i>Criteria description:</i> 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.	
<i>Comments:</i> Assignment was fulfilled.	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 0 to 100 points (grade A to F).</i>
2. Main written part	90 (A)
<i>Criteria description:</i> 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.	
<i>Comments:</i> Length of the thesis is adequate. Structuring in 4 section is good. Student also put extensive effort in researching all available CAN bus related software, which translates in unusually large list of citations/references. All of those citations are, however, relevant to the work done. Some longer and more complex sentences feels cumbersome. It made me read some parts of the text several times over, but overall this thesis is well structured and English level exceeds what I would expect from BSc student.	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 0 to 100 points (grade A to F).</i>
3. Non-written part, attachments	100 (A)
<i>Criteria description:</i> 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.	
<i>Comments:</i> Software developed is adequate and fulfills the assignment as well as our expectation. I would like to specifically highlight that student was extremely pro-active and keen to properly test and verify the developed tool. Although he faced some unforeseen challenges obtaining live CAN bus data from cars at our disposal (VW-based), he found a way to test his solution using ICSim Simulator. Subsequently, he also figured out which car brands can be used for live CAN bus monitoring (Toyota, Honda) and proactively obtained access to Toyota car for testing and verification purposes.	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 0 to 100 points (grade A to F).</i>
4. Evaluation of results, publication outputs and awards	100 (A)
<i>Criteria description:</i> 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:

I believe that thesis can be utilized in practice. I would highly suggest drafting up a paper and releasing the tool as open source project. I also believe that student should consider presenting this tool at some of the security conferences. Black Hat arsenal might be appropriate format to present it.

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:

Student was very active throughout the whole work. I would expect slightly higher autonomy on less strategic decisions (i.e. not every detail of user interface must have been consulted). Student was unable to meet some of the agreed deadlines that were set by himself. I understand that this was because he preferred to deliver work of appropriate quality rather than delivering insufficient results on time. I appreciate that he did not try to hand in some unfinished work to waste our time, but I would suggest especially for his future professional career to set deadlines and expectations more realistic. Sometimes he was slightly too ambitious on this front.

Evaluation criterion:

The evaluation scale: 0 to 100 points (grade A to F).

6. The overall evaluation

100 (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:

Author conducted extensive research of existing CAN bus tools. He found innovative way how to combine some of the existing tools together with own functionality enhancements. Tool he developed might be highly appreciated by open source community and car hacking enthusiasts. He was active and personally very interested in the topic. He demonstrated his ability to independently overcome challenges. Therefore, I consider fulfillment of thesis assignment to be excellent - A.

Signature of the supervisor: