



Review report of a final thesis

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Thesis title: Security of the Lua Sandbox
Branch / specialization: Computer Security and Information technology
Created on: 3 June 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

All requirements from assignment are covered in the text of thesis.

2. Main written part 90/100 (A)

The structure of the thesis is aligned to assignment requirements and easy to follow. The state-of-the-art theoretical part covers wide range of aspects related to sandboxing and Lua itself, used bibliography is rich. One rather minor comment from my side is related to the chapter 3. - more detailed description of the presented attacks, including the implementation details could be included.

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

The non written part is adequate, I appreciate "read me" files, that helps with overall understanding of practical part of the thesis.

4. Evaluation of results, publication outputs and awards 90/100 (A)

While the topic is quite specific, I still believe the thesis results will be helpful to the community of Lua users and developers with raising awareness and understanding, what are the security risks tied to usage of Lua.

The overall evaluation

90 /100 (A)

Since the topic of the thesis is not a trivial one, rather it's a bit more demanding and student covered all the parts of the assignment in adequate quality, I recommend the thesis for the defence, and propose the grade "A".

Questions for the defense

What would be your recommendations for the Lua developer with regards to "secure usage" of Lua?

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.

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.