



Review report of a final thesis

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Thesis title: Analysis of data security from online data-taking to publication in ATLAS at CERN
Branch / specialization: Computer Security and Information technology
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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

2. Main written part

85_{/100} (B)

The thesis is well written, despite some less understandable parts. The textual content is shorter, however it contains only necessary information which is relevant to the given topic. The last part of the thesis could be longer, since it is theoretical thesis. The referencing is good, only the last citation to "Personal consultation" should be in-text. Another problem is, that the figures are not referenced from the text. The description of figure 5.1 contains the abbreviation, which is not defined anywhere in the text.

3. Non-written part, attachments

70_{/100} (C)

In my opinion, the first three tasks were fulfilled. The fourth, the one about data protection, has some issues. There are two suggestions as a solutions, however none of them is well described. I have to read it multiple times and even after it, I am not sure that I fully understand. I think that the problem could be insufficient analysis of the problem. The goal was to make local data inaccessible after some time period. The solution is strongly dependent on the data processing. If the data should be only for viewing, the solution works well, but if it needs to be processed by the third party application, the given solution is not sufficient. If the data will be processed by third party application, it would be possible to make a copy. There is also not explained that a new decryption key (which is downloaded after expiration and deletion of the previous one) must be the same one, only with new expiration time. Furthermore, in case of the first

suggested solution it is unclear, how the user should work with the remote data (through web interface?)

4. Evaluation of results, publication outputs and awards 85 /100 (B)

The results usability depends on the way how the data are processed (as I already described in the previous section). If the data needs to be only viewed by a user, the suggested solution is usable.

The overall evaluation 78 /100 (C)

The quality of this thesis is high. If the student sufficiently answers my questions the final grade could be better.

Questions for the defense

- 1) In the first suggested solution of the data protection needs to implement some remote access to the dedicated server. How it should be realized?
- 2) How are data processed? Are they supposed to be only viewed by users, or be processed by some third party software?
- 3) Have you considered the possibility, that the decrypted data can be stolen directly from the application memory, since it is decrypted?

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. 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.

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.