



Supervisor's statement of a final thesis

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Thesis title: Security Analysis of Blocks Lockers
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

While I do consider the assignment fulfilled, I feel that significant parts are either missing completely or their description is insufficient. In particular, points 1 and 2 were performed in an extremely limited way, and the successive points suffer from being largely unverifiable due to the NDAs involved.

2. Main written part

55 / 100 (E)

The written part (as well as the rest of the thesis) suffers from a very limited time being available to complete it (see the evaluation of the student's activity). As a result, the level of the text is very mixed.

I am quite happy about section 2.3. While the text is fairly short, it does show that a very reasonable amount of research and thinking was invested here. I would be even happier if some more threats were identified (e.g. the possibility of a fake Box to fool the user into entering their code), but overall, this is one of the better threat evaluations that we can find in bachelor theses.

On the other hand, chapter 1 is extremely limited, which is bad because the first two tasks of the assignment should have been handled there.

Chapter 3 (the actual security analysis) is again highly limited, but the parts that made it in are good. Unfortunately, the short length and low detail of the chapter negatively interact with the NDAs involved and the end result is that a significant part of the text isn't really reliable - we get a brief (very brief) summary of the results but no real hard data to back them. Also, I feel that many more tests and analyses should have been made, especially of other threat areas; the chapter decidedly feels very shallow now.

The thesis is written in English which is not perfect by far, but generally OK - while errors in articles, prepositions or vocabulary can be found fairly often, the work is still easy enough to understand and it manages to convey its content well.

I find myself quite annoyed by the incorrect use of "computer" quotes rather than "typographical". I also don't understand why the thesis is printed single-side.

3. Non-written part, attachments 0/100 (F)

The thesis does not contain any non-written part. While this has been to a large degree determined by the NDAs, I still think that the student could have implemented *something* of her own that she could attach. At the very least, I would expect the output of the analysis tools used.

4. Evaluation of results, publication outputs and awards 60/100 (D)

One clear practical result of the thesis is the discovery of the flawed protection from brute-forcing the passwords, which will presumably get fixed by the developers, improving the overall security. But that's about it - the rest may or may not be of use to the developers of Blocks, but definitely not to the readers of the thesis. The short length, the lack of depth and the non-existence of any verifiable data prevent that.

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 mostly passive throughout the work. It was only when the time started to run out that she started to dedicate fully to the product. The fact that she was able to finish it before the deadline (albeit the extended one) shows that she can be very active when enough pressure is applied.

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 overall evaluation

55 /100 (E)

Overall, I find the thesis sufficient for the purpose of defending it but disappointing otherwise. The occasional good parts only serve to aggravate that feeling because they show what the student would be capable of if only she started to work on the thesis on time. Still, the threat identification section deserves to be successfully defended. For this reason I recommend the thesis for defense with a grade of E = sufficient.

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.