



Supervisor's statement of a final thesis

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Thesis title: XpenseTracker Client – client part for personal finance manager
Branch / specialization: Software Engineering
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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

The goal of the thesis was to create a web and mobile client applications for the system XpenseTracker. Most of the secondary goals was achieved with certain functions of the application not being implemented for the mobile application.

2. Main written part

70/100 (C)

The text of the thesis spans 51 pages with adequate English. The text is well structured and explains all the related facts and decisions regarding the realization of the goals.

In the beginning, the thesis the motivation and context of the thesis. In the second chapter, the author describes the architecture and functionality of the original solution, discussion about other existing solutions (including their comparison) and states the functional and non-functional requirements for the new solution. Based on this analysis, chapter 3 suggests UI design of the required screens based on previous review of best practices of UI design, chosen technologies and libraries for the realization and review of selected architecture. Chapter 4 discusses the process of realization, used tools and details of implementation of certain functions. Finally, chapter 5 discusses testing of the app mainly focused on usability test by several users.

For the content, I have these comments:

- In the listings, there is an empty header "List of code listings" which is not needed. However, there are several code listings that are printed as figures, instead.
- In the review of existing apps, there is no summary except the table, which is not referenced from the table. Also, other references to the app screenshots are missing.

- Wireframes for certain mobile screens are missing, probably because they were not implemented in the end (which should not stop their design).
- Application architecture is described very briefly. Most of the section is generic, explaining possible variants. I miss more details about the internal structure of the specific solution here.
- In the implementation part, lots of specific solutions are described. I miss more code listings or diagrams to visualize the solution.
- There are no scenarios described for the manual tests. For the usability tests, 4 users are not enough. Also, the student provided no conclusions from the usability tests results.

3. Non-written part, attachments

70/100 (C)

The main result of the thesis is a web and Android application for the XpenseTracker system. Both applications are based on the TypeScript and React implementation. Although expected to reuse most of the code for both applications, in the end, each has its own separated code. Parts are duplicated, parts are implemented in a different way. The only aspect they share is the architecture and technologies.

In contrast to the web application, the Android application misses certain functions such as management of transaction categories or templates. Although the mobile app is distributed only for Android in the form of an APK file, it should be also possible to release it as an iOS application.

There are no automated tests applied to any of the applications. It was only tested manually.

The code is well structured and respects the high-level architecture design. There are no comments in the code explaining its individual functions. Also, there are sections of code commented out.

4. Evaluation of results, publication outputs and awards

75/100 (C)

The resulting applications for the web client and Android devices are working and properly communicating with the back-end system of XpenseTracker. However, missing several functions and with bugs preventing full usage of some other functions, the applications are not ready for production use. However, they are surely ready for further development and finalization.

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 attended a few consultations but worked mostly individually. Before the submission, I got a pre-final version of the thesis to review and got the chance to try the apps out. I would have expected more frequent consultations and discussion about the solution.

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 thesis was mostly done individually. I got the chance to test the apps and report bugs, but the solution and implementation was purely done by the student.

The overall evaluation

70 /100 (C)

I consider the thesis of an average quality. There are certain issues in the text of the thesis, mainly in the quality of description of the architecture. In the realization, there are missing functions in the mobile app, remaining bugs preventing usage of certain other functions and nonadequate testing. However, the apps do mostly work and can be used for further development and beta-usage.

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.