FACULTY
OF INFORMATION
TECHNOLOGY
CTU IN PRAGUE

Review report of a final thesis

Reviewer:	Ing. Tomáš Chvosta
Student:	Bc. Petr Pondělík
Thesis title:	Modern Web Development Technologies and Approaches
Branch / specialization:	Web Engineering
Created on:	28 May 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

The student's task was to explore and analyze the development of web applications with a particular focus on REST, GraphQL, and PWA and then create a prototype of a web application that outlines the benefits of using these technologies. The author started with detailed introduction to web application development, exploring types of web applications from many different perspectives and provided a broad theoretical analysis of technologies and approaches used in web development, including REST, GraphQL and PWA. Subsequently, he created a high-quality design and implementation of a prototype web application that allows users to publish content, such as posts or articles and to create reading lists and to store another content. The solution also includes documentation and automated tests at the level of unit tests and integration tests. There is also evaluation of the individual components of the prototype. The student evaluated and summarized the advantages and disadvantages of each technology and approach used in the solution. The thesis fulfills all the goals that were defined in the assignment.

2. Main written part

90 / 100 (A)

The text of the thesis without appendices contains 119 pages. It is divided into chapters that cover all points of assignment. Their scope is well balanced in the work. The formal structure is fine, no prescribed part is missing. While reading the work, I found no grammatical mistakes, but I found some formal mistakes, such as a repetitive sentence in the conclusion.

3. Non-written part, attachments 95 /100 (A)

The student created a very good prototype of a web application, tested it and documented everything well. I consider the source code of the work to be very good in terms of quality, the student uses selected technologies Nest.js, PWA, REST, GraphQL correctly and it is therefore relatively easy to follow up on his work. TypeScript code is easy to understand and has good design features.

4. Evaluation of results, publication outputs and awards 95 /100 (A)

The thesis fulfills its purpose and therefore offers a good basis for possible decisions on the choice of modern technologies when creating web applications. The implemented prototype is open for future expansion of the application interface according to future requirements. For this purpose, the student documented the solution well.

The overall evaluation 95 /100 (A)

The thesis fulfilled the assignment. I did not find any serious problems in the work and I propose to evaluate it with a grade of A. I got the impression from the work that the student had demonstrated his master level.

Questions for the defense

1. Is error logging implemented in the application, and how?
2. What steps should be taken to extend the prototype with user registration?

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.