**FACULTY
OF INFORMATION
TECHNOLOGY
CTU IN PRAGUE**

Review report of a final thesis

Reviewer:	Ing. Petr Špaček, Ph.D.
Student:	Peter Žáčik
Thesis title:	Implementation of a Portal Dedicated to Higgs Bosons for Experts and the General Public
Branch / specialization:	Web and Software Engineering, specialization Software Engineering
Created on:	7 June 2021

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

I consider the assignment to have been fulfilled in its entirety.

2. Main written part   80 / 100 (B)

The text of the thesis corresponds to the BP requirements and is written in very good English. I have no reservations about the structure of the individual chapters and sections. I positively evaluate the author's efforts to be concise and precise in his explanations. I would have a minor criticism of Chapter 4, sections 4.1.1 and 4.1.2, where I would have expected a more detailed numbered elaboration of the individual requirements. From a software engineering perspective, it is difficult to tell which components implement which requirement from the following text.
The choice of the SPA framework React (4.4.7) is not argued for in the same way as the choice of the server framework Flask.
I would also appreciate better documentation of automated test coverage in section 6.1.

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

The project code is split into two sub-projects, client and server, which is consistent with the chosen architecture. Each sub-project is structured in accordance with the conventions of the chosen framework (flask for the server and react for the client.) and it is therefore relatively easy to add additional functionality. I can evaluate the quality of the ML (ie. NLP) part of the work only from the position of a software architect, because ML

is not my domain. The use of NLP libraries and their organization using a pipeline architecture again contributes positively to ease of future maintenance.

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

I consider the result of this work to be practically usable and beneficial.

The overall evaluation 90 /100 (A)

Overall, I enjoyed the work and believe it will contribute to the reputation of FIT CTU within the CERN organization and the Higgs boson community.

Questions for the defense

What is the coverage of functional requirements by automated tests?
Why did you use the SPA framework React for the client implementation?

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.