Posudek diplomové práce

Matematicko-fyzikální fakulta Univerzity Karlovy

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Thesis title: Expanding the Dataspecer Tool for Streamlined API Creation and Management

Submitted: 2024

Program: Computer Science - Software and Data Engineering

Review author: RNDr. Michal Kopecký, Ph.D. **Role**: Reviewer

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Review text:

The goal of the thesis is to expand existing tool – the Dataspecer – with the features necessary for API design according to data structures designed and maintained in the tool.

The work is written in good English and is well structured, even I would prefer more common names of chapters as Analysis, Specification, Desing etc.

Approximately firs third of the thesis contains analysis – description of APIs in general, criterisa for Good APIs and brief description of the Dataspecer tool.

Following – biggest – part of the thesis, approximately 50 % of the text describes requirements and corresponding architecture of the extension.

The extension itself is written in React and TypeScript. As the extension uses functionality of original Dataspecer, the source code is not huge – about 120 KB of code including comments.

The thesis has fulfilled the assignment and allows to design API specifications on conceptual level. The user can easily (semi-automatically) generate the formal definition of the API in the web UI of the Dataspecer.

Each operation can be defined by dynamic form, where user can choose the class (data structure) he/she would like to work with, if the operation manipulates directly with given class or any of associated collections, the operation, etc. The tool suggests names of operations, paths, parameters according to content of the data structure etc.

From my point of view, creating operations one by one can be quite long for complex data model, if the user needs to add (almost) all operations on (almost) all classes and associations. Wouldn't be possible to add possibility not only to generate individual operations one by one, but also all operations on given class or all classes, where the user will subsequently delete or deactivate operations, he/she does not need?

At any moment the user can export current specification in the OpenAPI standard.

I recommend the thesis for defense.

I suggest to not consider the thesis for the annual award.

Date: 2nd September, 2024

Signature: