



Review report of a final thesis

Student: Bc. Peter Uhnák
Reviewer: prof. Dr. Jan Verelst
Thesis title: Developing Normalized Systems Conceptual Modeler
Branch of the study: Web and Software Engineering

Date: 1. 6. 2018

<i>Evaluation criterion:</i>	<i>The evaluation scale: 1 to 4.</i>
1. Fulfilment of the assignment	<u>1 = assignment fulfilled,</u> 2 = assignment fulfilled with minor objections, 3 = assignment fulfilled with major objections, 4 = assignment not fulfilled
<i>Criteria description:</i> 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.	
<i>Comments:</i> The assignment was to build a graphical conceptual modeling tool for Normalized Systems applications, based on OpenPonk. The functional requirements of this assignment have all been met and have been succeeded, while realizing quality/non-functional requirements to an exceptional extent. See also, item 6 below.	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 0 to 100 points (grade A to F).</i>
2. Main written part	95 (A)
<i>Criteria description:</i> 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.	
<i>Comments:</i> The master thesis is very well written. It provides an overview of the underlying theories and frameworks (Normalized Systems, Open Ponk, ...) both from a theoretical and applied perspective, and discusses the NS Modeler both succinctly but at the same time covering all the most important aspects. There are few grammatical or spelling errors, and the thesis is very well structured, and easy to read.	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 0 to 100 points (grade A to F).</i>
3. Non-written part, attachments	95 (A)
<i>Criteria description:</i> 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.	
<i>Comments:</i> The NS Modeler has been used at the University of Antwerp by about 20 students in Business Engineering for developing prototypes for a real-world case study. The students reported that the NS Modeler was a major plus compared to the user interface they used last year, i.e. the Prime Radiant. The number of issues observed with the NS Modeler was very low, and the built-in error tracking mechanism provided for very accurate and appropriate solutions. In general, the NS Modeler proved to be very reliable.	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 0 to 100 points (grade A to F).</i>
4. Evaluation of results, publication outputs and awards	95 (A)
<i>Criteria description:</i> 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.	

Comments:

There is no doubt that the NS Modeler can be used in practice at all. Besides its use by the students of the University of Antwerp, a government authority with extensive experience in developing Normalized Systems has been contacted , and they confirmed the usefulness of the NS Modeler.

Evaluation criterion:

No evaluation scale.

5. Questions for the defence

Criteria description:

Formulate questions that the student should answer during the Presentation and defence of the FT in front of the SFE Committee (use a bullet list).

Questions:

- the current integration with the Prime Radiant is very loosely coupled through transfer of XML files (which was one of the goals of the thesis). Suppose that in the future, we would allow a tighter, real-time integration between the NS Modeler and the Prime Radiant, which alternative designs could be used to realize this ?
- we would be very interested in developing a version of the NS Modeler that would be able to re-generate (itself) in the future to accomodate changes, similar to how the Prime Radiant can re-generate itself. What are your thoughts on achieving this ?

Evaluation criterion:

The evaluation scale: 0 to 100 points (grade A to F).

6. The overall evaluation

95 (A)

Criteria description:

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.

Comments:

In general, this is an excellent master thesis, with the student demonstrating excellent abstraction and theoretical skills, combined with very mature competences for developing complex software applications like a graphical modeling tool on top of an existing platform such as OpenPonk. The result is a graphical modeling tool, unique in its combination of support for a specific theory (Normalized Systems) and integration with a code generation platform aimed at large-scale mission critical systems. The validation by a substantial group of users, which were supported in excellent fashion by the author of the master thesis, and the positive feedback from a government party on the NS Modeler, confirm the exceptional level of this master thesis.

Signature of the reviewer: