Supervisor's statement of a final thesis

Czech Technical University in Prague **Faculty of Information Technology**

Student:	Bc. Martin Procházka
Supervisor:	prof. RNDr. Roman Barták, Ph.D.
Thesis title:	Constraint Models for Planning and Scheduling
Branch of the study:	Knowledge Engineering

Date: 5. 6. 2017

Evaluation criterion:	*The evaluation scale: 1 to 5.*
1. Difficulty and other comments on the assignment	*1 = extremely challenging assignment,* *2 = rather difficult assignment,* *3 = assignment of average difficulty,* ***4 = easier, but still sufficient assignment,*** *5 = insufficient assignment*

Criteria description:
Characterize this final thesis in detail and its relationships to previous or current projects. Comment what is difficult about this thesis (in case of a more difficult thesis, you may overlook some shortcomings that you would not in case of an easy assignment, and on the contrary, with an easy assignment those shortcomings should be evaluated more strictly.)

Comments:
Tha goal of thesis was to implement a constraint model to solve problems from a particular planning domain. As there already exists several approaches for constraint modelling of general planing domains, this should not be a hard task unless a more complex domain is selected. The student selected quite a classical transportation-like domain and applied a naive model to solve it. Hence the difficulty can be seen as easy.

Evaluation criterion:	*The evaluation scale: 1 to 4.*
2. Fulfilment of the assignment	*1 = assignment fulfilled,* *2 = assignment fulfilled with minor objections,* ***3 = assignment fulfilled with major objections,*** *4 = assignment not fulfilled*

Criteria description:
Assess whether the thesis meets the assignment statement. In Comments indicate parts of the assignment that have not been fulfilled, completely or partially, or extensions of the thesis beyond the original assignment. If the assignment was not completely fulfilled, try to assess the importance, impact, and possibly also the reason of the insufficiencies.

Comments:
Though the student implemented a constraint model for a particular planning domain of maintenance of wind turbines, I see the result as insufficient due to missed discussion of alternative models and very weak experimental comparison with respect to other approaches. The model itself is very simple and naive in using many disjunctive constraints, also it is not very innovative, based on ideas of CPlan.

Evaluation criterion:	*The evaluation scale: 1 to 4.*
3. Size of the main written part	*1 = meets the criteria,* *2 = meets the criteria with minor objections,* ***3 = meets the criteria with major objections,*** *4 = does not meet the criteria*

Criteria description:
Evaluate the adequacy of the extent of the final thesis, considering its content and the size of the written part, i.e. that all parts of the thesis are rich on information and the text does not contain unnecessary parts.

Comments:
The organisation and content of thesis is quite bad. There are many parts that are only distantly related to the topic, such as description of various consistency techniques, some chapters are completely out of scope (4.5, 6.3 etc.), while the precise formal description of the problem is missing and the evaluation is extremely short and not saying much.

Evaluation criterion:	*The evaluation scale: 0 to 100 points (grade A to F).*
4. Factual and logical level of the thesis	*20 (F)*

Criteria description:
Assess whether the thesis is correct as to the facts or if there are factual errors and inaccuracies. Evaluate further the logical structure of the thesis, links among the chapters, and the comprehensibility of the text for a reader.

Comments:
Not only the organisation of text is bad, but there are also many factual errors and inaccuracies, in particular in the survey of existing techniques. Path consistency is not K-consistency, K-consistency does not imply J-consistency (for J<K), CPlan and Graphplan are different approaches, !n notation is not standard, etc. just to give some examples. This itself is enough to reject the theses as the reader can get wrong facts from the text. Though at the top level, the organisation of thesis is reasonable, at the detailed level, there are unclear relations between chapters, many unnecessary parts (in sections 3-6), while some parts need significant extension (Section 8).

Evaluation criterion:	*The evaluation scale: 0 to 100 points (grade A to F).*
5. Formal level of the thesis	*60 (D)*

Criteria description:
Assess the correctness of formalisms used in the thesis, the typographical and linguistic aspect s, see Dean's Directive No. 14/2015, Article 3.

Comments:
The typographical level of thesis is satisfactory, there are some English errors, but not serious. The technical writing (formulas) is weaker.

Evaluation criterion:	*The evaluation scale: 0 to 100 points (grade A to F).*
6. Bibliography	*50 (E)*

Criteria description:
Evaluate the student's activity in acquisition and use of studying materials in his thesis. Characterize the choice of the sources. Discuss whether the student used all relevant sources, or whether he tried to solve problems that were already solved. Verify that all elements taken from other sources are properly differentiated from his own results and contributions. Comment if there was a possible violation of the citation ethics and if the bibliographical references are complete and in compliance with citation standards.

Comments:
The author properly references existing works, but he focuses on quite old texts only and did not research recent results in the area such as ANML modelling language, FAPE system etc.

Evaluation criterion:	*The evaluation scale: 0 to 100 points (grade A to F).*
7. Evaluation of results, publication outputs and awards	*20 (F)*

Criteria description:
Comment on the achieved level of major results of the thesis and indicate whether the main results of the thesis extend published state-of-the-art results and/or bring completely new findings. Assess the quality and functionality of hardware or software solutions. Alternatively, evaluate whether the software or source code that was not created by the student himself was used in accordance with the license terms and copyright. Comment on possible publication output or awards related to the thesis.

Comments:
The result itself is not appropriate for publication as it does not extend state-of-the-art, actually the presented model is based on very old techniques. The experimental evaluation is not satisfactory (no deep evaluation of the model, no comparison to other approaches).

Evaluation criterion:	*No evaluation scale.*
8. Applicability of the results	

Criteria description:
Indicate the potential of using the results of the thesis in practice.

Comments:
I think that the presented results in their current form can be hardly applied in practice.

Evaluation criterion:	*The evaluation scale: 1 to 5.*
9. Activity and self-reliance of the student	*9a:* *1 = excellent activity,* *2 = very good activity,* *3 = average activity,* *4 = weaker, but still sufficient activity,* ***5 = insufficient activity*** *9b:* *1 = excellent self-reliance,* *2 = very good self-reliance,* ***3 = average self-reliance,*** *4 = weaker, but still sufficient self-reliance,* *5 = insufficient self-reliance.*

Criteria description:
Review student's activity while working on this final thesis, student's punctuality when meeting the deadlines and consulting continuously and also, student's preparedness for these consultations. Furthermore, review student's independency.

Comments:
I have not seen the student since the assignment of thesis. He did not communicate with me any progress and he submitted the thesis without showing me even a part of it. Actually, I was not aware that he is going to submit the thesis.

Evaluation criterion:	*The evaluation scale: 0 to 100 points (grade A to F).*
10. The overall evaluation	*40 (F)*

Criteria description:
Summarize the parts of the thesis that had major impact on your evaluation. The overall evaluation **does not** have to be the arithmetic mean or any other formula with the values from the previous evaluation criteria 1 to 9.

Comments:
I was very surprised that the student submitted the thesis without a single consultancy with me beyond the discussion of general thesis topic at the very beginning. This itself would not be a problem if the thesis is excellently written, but this is far from being true. The organisation of text is bad with many unnecessary parts and some other parts missing; the organisation needs to be refocused. There are factual errors in the description of existing works, the proposed solution is naive, not very innovative, alternative approaches are not properly discussed and tried, and the experimental evaluation is poor. I believe that the thesis are not acceptable in its current form and they require significant rewriting.

Signature of the supervisor: