



Supervisor's statement of a final thesis

Student: Berker Katipoglu
Supervisor: doc. RNDr. Pavel Surynek, Ph.D.
Thesis title: Adapting the Conflict-based Search Algorithm for Alternative Objectives
Branch of the study: Software Engineering

Date: 27. 1. 2020

<i>Evaluation criterion:</i>	<i>The evaluation scale: 1 to 4.</i>
1. Fulfilment of the assignment	<i>1 = assignment fulfilled, 2 = assignment fulfilled with minor objections, 3 = assignment fulfilled with major objections, 4 = assignment not fulfilled</i>
<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 task was to adapt the Conflict-Based Search algorithm for optimal multi-agent path finding (MAPF) for different objectives other than the sum-of-costs. To this end, the student made a successful attempt to adapt the CBS algorithm for the makespan objective. I am satisfied with the novelty of the idea but the presentation is worse due to seemingly limited effort invested in thesis preparation.	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 0 to 100 points (grade A to F).</i>
2. Main written part	<i>55 (E)</i>
<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 thesis contains all necessary parts needed to deliver the idea to the reader: problem definition, new algorithm, and the experimental evaluation. However, each individual part has relatively low quality. For example: problem definition does not mention why the MAPF problem is difficult, on the other hand unnecessary definitions of conflict types cover more than one page; experimental evaluation is merely list of plots with limited commentary. Altogether I consider the text being far from an ideal thesis.	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 0 to 100 points (grade A to F).</i>
3. Non-written part, attachments	<i>95 (A)</i>
<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 enclosed program implements the CBS algorithm with the makespan objective. It can be used to reproduce presented experiments and fulfills the purpose.	
<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	<i>75 (C)</i>
<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:

The research done within the thesis could be extended into a scientific article assuming considerable effort is devoted to presentation.

Evaluation criterion:

The evaluation scale: 1 to 5.

5. Activity and self-reliance of the student

5a:
1 = excellent activity,
2 = very good activity,
3 = average activity,
4 = weaker, but still sufficient activity,
5 = insufficient activity
5b:
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:

From your experience with the course of the work on the thesis and its outcome, review the student's activity while working on the thesis, his/her punctuality when meeting the deadlines and whether he/she consulted you as he/she went along and also, whether he/she was well prepared for these consultations (5a). Assess the student's ability to develop independent creative work (5b).

Comments:

The student started to address the topic from the research point of view. It took long time to find a suitable problem for the thesis. After defining the problem well, the student was urged to write the thesis in relatively short time which had a negative impact on the quality. While the activity was good, the organization was worse.

Evaluation criterion:

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

6. The overall evaluation

71 (C)

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:

I recommend the thesis for the defense. Due to low quality of presentation my evaluation is C.

Signature of the supervisor: