

I. IDENTIFICATION DATA

Thesis title:	Microservice pattern Saga as a state machine
Author's name:	Ivan Shalaev
Type of thesis :	bachelor
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Department of Computer Science
Thesis reviewer:	Kyrylo Bulat
Reviewer's department:	Department of Computer Science

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	challenging
<i>How demanding was the assigned project?</i>	
Please insert your comments here.	

Fulfilment of assignment	fulfilled with major objections
<i>How well does the thesis fulfil the assigned task? Have the primary goals been achieved? Which assigned tasks have been incompletely covered, and which parts of the thesis are overextended? Justify your answer.</i>	
<p>The student achieved one of the primary goals of the work by doing thorough research on the Saga pattern and by implementing an API that enables the configuration of Sagas. However, the author doesn't provide details of:</p> <ul style="list-style-type: none"> - how Saga reflects features of the CAP theorem, - potential solution proposal to address Saga's isolation deficiency. <p>The chapter about testing is very detailed, and the author performs a sufficient level of testing for the developed application.</p>	

Methodology	correct
<i>Comment on the correctness of the approach and/or the solution methods.</i>	
<p>Before starting development work, the student conducted thorough research on microservices architecture, Saga pattern, and their variations. The solution's chosen architecture is complex, combining multiple proven tools and techniques.</p>	

Technical level	A - excellent.
<i>Is the thesis technically sound? How well did the student employ expertise in the field of his/her field of study? Does the student explain clearly what he/she has done?</i>	
<p>The work is successful from the technical point of view and requires a deep understanding of the used technologies and practical experience with their implementation. I especially appreciate that the student applied extra modifications to the testing libraries to test the implemented application sufficiently.</p>	

Formal and language level, scope of thesis	C - good.
<i>Are formalisms and notations used properly? Is the thesis organized in a logical way? Is the thesis sufficiently extensive? Is the thesis well-presented? Is the language clear and understandable? Is the English satisfactory?</i>	
<p>I appreciate that the thesis is written in very good English with minimal language issues. The chapters contain relevant information. I've noticed several typographic issues:</p> <ul style="list-style-type: none"> • missing dot at the end of the sentence in sections 3.1, 5.3.1, • the terms "Saga" and "Orchestration" are not written consistently, with some instances using a lowercase "s" while others use a capital "S". <p>Implementation and Testing chapters contain too many code examples, often unnecessarily detailed. Section 5.3.1 contains the one-and-a-half pages of the source code from the Spring Contract library, which could be omitted. It would be advantageous to delve into the advantages and disadvantages of Saga Orchestration and Saga Choreography, enabling a more thorough analysis and comparison of these two variations of the design pattern.</p>	

Selection of sources, citation correctness**B - very good.**

Does the thesis make adequate reference to earlier work on the topic? Was the selection of sources adequate? Is the student's original work clearly distinguished from earlier work in the field? Do the bibliographic citations meet the standards?

The sources chosen are satisfactory, with the exception of a few citations from StackOverflow.

Additional commentary and evaluation (optional)

Comment on the overall quality of the thesis, its novelty and its impact on the field, its strengths and weaknesses, the utility of the solution that is presented, the theoretical/formal level, the student's skillfulness, etc.

Please insert your comments here.

III. OVERALL EVALUATION, QUESTIONS FOR THE PRESENTATION AND DEFENSE OF THE THESIS, SUGGESTED GRADE

The student introduced the Saga pattern well and implemented a solution that could be further extended and reused. However, the student hasn't provided enough details to prove the achievement of a couple of objectives from the task.

The grade that I award for the thesis is **C - good**.

Date: **4.6.2023**

Signature: *Kyrylo Bulat*