

I. IDENTIFICATION DATA

Thesis title:	Microkernel architecture and its applicability in application development
Author's name:	Citarovič Mikita Aljaksandravič
Type of thesis :	bachelor
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Department of Computer Science
Thesis reviewer:	Ing. Kyrýlo Bulat
Reviewer's department:	System Testing IntelIgent Lab

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	challenging
<i>How demanding was the assigned project?</i>	
The student needed to analyze and research a less popular software architecture style that is specific to certain domains. In addition to the analysis, the student had to demonstrate the usefulness of the microkernel architecture in application development by implementing a prototype application.	

Fulfilment of assignment	fulfilled
<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>	
The student completed all assigned tasks and met the defined goals. They conducted research on various aspects of microkernel architecture and provided a detailed description of real-world applications utilizing this architecture. Additionally, the student developed and tested a prototype application with two simplified scenarios from different domains.	

Activity and independence when creating final thesis	A - excellent.
<i>Assess whether the student had a positive approach, whether the time limits were met, whether the conception was regularly consulted and whether the student was well prepared for the consultations. Assess the student's ability to work independently.</i>	
The student was proactive and finished all the parts independently while regularly asking for my feedback. The student met all time limits.	

Technical level	B - very good.
<i>Is the thesis technically sound? How well did the student employ expertise in his/her field of study? Does the student explain clearly what he/she has done?</i>	
The student effectively describes and applies various technical concepts when creating a prototype application. While the majority of the work is clear and comprehensible, providing a more detailed explanation of certain architectural decisions in the implementation phase would be beneficial. Fortunately, the student supplemented the explanation with visual representations in the form of architecture and sequence diagrams, which enhanced the overall understanding of the work. The testing section summarizes the achieved results using two simplified real-life scenarios.	

Formal level and language level, scope of thesis	B - very 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>	
The thesis is well-organized and comprehensive. However, the section that describes the prototype testing could be moved to a separate chapter. Additionally, the student could consider providing more detailed explanation of some technical concepts, such as webhooks, in the implementation chapter. Nevertheless, the student demonstrates the use of clear and understandable English.	

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 student cited references from nearly 30 sources, such as books, technology documentation, and online resources, to support his statements. The selection of sources is adequate.

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

Summarize your opinion on the thesis and explain your final grading.

The student showcased their abilities to do research in the field of software architecture and apply theoretical knowledge in practice. Additionally, the student performed end-to-end verification of the implemented prototype applications but, more importantly, managed to identify areas of improvement and bottlenecks of the selected approach. This work showcases the applicability of microkernel architecture in modern web application development and contributes to the popularization of this architectural style. The implemented proof-of-concept application is ready for future extension.

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

Date: **5.6.2024**

Signature: *Kyrylo Bulat*