

Review on research proposal on the topic of “A Comparative Study: Monolithic vs. Microservices Architectures”

1.Introduction:

The research proposal focuses on comparing monolithic architecture with microservices architecture to evaluate their advantages, disadvantages, and suitability for different use cases. The proposal aims to conduct a comprehensive study by collecting industry data and analyzing key aspects such as complexity, scalability, deployment, monitoring, and other relevant factors. Below is an evaluation of the proposal and recommendations for improvement.

2.Research Scope and Methodology:

2.1. Scope: The proposal presents a clear scope of comparing monolithic and microservices architectures, analyzing real-world use cases, and evaluating multiple criteria.

2.2. Methodology: The proposal lacks a detailed description of the research methodology. It would be beneficial to outline the specific data collection methods, analysis techniques, and tools to be used during the study.

Recommendation: Providing a clear and well-defined research methodology, including the selection of industries, data collection techniques (surveys, case studies), and analysis methods (qualitative and/or quantitative) would be better to have.

3.Significance and Benefits:

3.1. Significance: The proposal acknowledges the relevance of system design and architecture skills for software engineers. Conducting this study will provide valuable experience and knowledge in these areas.

3.2. Benefits: While the proposal focuses primarily on personal benefits, it would be valuable to expand on the potential benefits for the broader software engineering community. Discussing how the findings and key takeaways from the study could contribute to industry practices and decision-making processes.

Recommendation: Better to highlight the potential benefits for the software engineering community, such as improving architectural decision-making, fostering industry-wide discussions, and enhancing overall understanding of the trade-offs between monolithic and microservices architectures.

4.Anticipated Risks:

4.1. Industry Data Availability: The proposal rightly identifies the potential challenge of accessing industry data openly.

4.2. Complexity: The proposal acknowledges the potential complexity of the study, emphasizing the need for comprehensive analysis.

4.3. Technical Difficulties: The proposal recognizes the possibility of encountering technical challenges during the interpretation of complex concepts.

Recommendation: Providing potential solutions or alternative approaches to mitigate the anticipated risks, also considering alternative data sources if industry data is limited would be better to have it here.

Timeline and Out-of-Pocket Costs:

The proposal states that there are no expected costs and suggests completing the research within an 11-week timeframe.

Recommendation: While the absence of out-of-pocket costs is reasonable, it would be beneficial to allocate sufficient time for data collection, analysis, and interpretation, keeping in mind that adjusting the timeline to allow for potential delays and ensure thorough research.

Midterm Results:

The proposal establishes specific milestones for the midterm, including analyzing relevant papers for a literature review, analyzing both architectures separately, and conducting industry research. From reviewer point of me it demonstrates a well-structured plan for the initial stages of the study.

Final Demonstration:

The proposal aims to deliver a comprehensive comparison between monolithic and microservices architectures, presenting relevant data, outcomes, and key takeaways.

In summary, while the research proposal covers essential aspects of comparing monolithic and microservices architectures, several areas can be improved to enhance the overall quality and impact of the study. From my point of view as reviewer I believe by incorporating the provided recommendations, the research will benefit from a clearer research methodology, expanded benefits to the software engineering community, effective risk mitigation strategies, and a well-defined timeline.

