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Comparative analysis of frontend layer design and implementation methods (Analiza porównawcza metod projektowania i implementacji warstwy frontend)

Abstract:

In software development, clean code and clean architecture are crucial aspects that ensure separation between business logic, application logic, and framework-related code. However, in the dynamic world of web development, these approaches are not commonly utilized due to the lack of standardization among frontend frameworks and libraries. This often leads to complications in creating web applications. To address this issue, a study was conducted to compare two approaches to building React applications with calendar functionality. The study evaluated the time required to create the applications, code usage, and ease of modifications. The research was conducted in two stages: building and modifying. During the first stage, two researchers created two calendar apps with the same use cases. The first researcher utilized React with clean architecture, while the second one followed React's recommended approach. In the second stage, a third researcher made uniform modifications to both apps. Clean code architecture offers clear logic separation but requires significant development time. On the other hand, React's recommended approach enables quicker modifications, which may be influenced by app size and team expertise. The comparative analysis provides developers with valuable information to make informed decisions on architectural choices for scalability, maintainability, and modification ease. This study contributes to the ongoing discussions on modern software development best practices. Further analysis with more control groups and the development of larger apps would provide more comprehensive results.

Primary authors: Mr MOSTOWSKI, Adrian; KOPYŚĆ, Bartłomiej; Mr KUCZEWSKI, Kacper

Presenters: Mr MOSTOWSKI, Adrian; KOPYŚĆ, Bartłomiej; Mr KUCZEWSKI, Kacper

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