

ABSTRACT

Digital transformation in public services demands systems that are fast, transparent, and easy to use. However, the development of village public service systems is often hindered by interface complexity and technical limitations. The complex and manual frontend development process is also prone to errors. Generative AI has the potential to accelerate this process, but it is not ideal as a full developer. Therefore, Generative AI is functionally used as a developer assistant.

Limapoccoe village requires a responsive and modular digital service system. The gap between UI/UX design and implementation results often occurs due to limited developer resources and time constraints. A more optimal and structured development method is needed to bridge this gap.

This study uses the DCGen (Divide and Conquer based method to Generate website code from UI) approach, which divides the UI design into smaller components, generates code using Generative AI, and integrates it into the system. Developers still review the code generated by Generative AI to ensure it meets the requirements. The performance of Generative AI with DCGen is measured based on the alignment of the design and the quality of the generated code.

The final frontend system developed shows no significant difference from the original UI/UX and demonstrates very good code quality for the parameters of Security and Reliability. However, the parameters of Duplications and Maintainability are still considered quite high. Therefore, Generative AI with DCGen can be used as an alternative in the frontend web development process.

Keywords: *DCGen, Generative AI, Frontend Web, Public Services, System Complexity, Interface Development*