ABSTRACT

Manual residential management often leads to various problems such as inaccurate record-keeping, slow complaint handling, and administrative financial difficulties. To address these challenges at Cherry Field Housing, this research aims to design and develop a web-based residential management information system. The Rapid Application Development (RAD) methodology was chosen for its ability to accelerate the development process through iterative prototyping and direct user feedback.

The system was built using a modern technology stack, including Next.js for the frontend interface, Express.js for the backend, and PostgreSQL as the database. The applied research methodology covered interviews for requirements gathering, architectural and interface design, code implementation, and comprehensive system testing. The system was evaluated through two approaches: black box testing for functional validation and usability testing to ensure ease of use for the administrators.

The results indicate that the developed system significantly improves management efficiency. System validation through black-box testing showed 100% functionality as expected, while usability testing using the System Usability Scale (SUS) yielded a score of 90, indicating an excellent level of ease of use by administrators. Therefore, the implementation of this system is proven to enhance effectiveness, efficiency, and transparency, providing a tangible contribution to creating a more modern and organized living environment.

Keywords: *Residential Management, Information System, Rapid Application Development*