Abstract

Manual formulary management at the Sitti Khadijah Women's and Children's Hospital (WCH) in Gorontalo using physical books faces various obstacles, such as slow updating processes, the risk of recording errors, difficulty in quickly accessing information, and the inability to integrate with digital systems. This study aims to design and build a formulary-based application.Progressive Web App (PWA) to address these issues, in order to improve the efficiency of drug data access and the accuracy of information for medical personnel. The system development method uses a model Waterfall with the stages of needs analysis through observation and interviews, system design using UML diagrams (Activity Diagram, Sequence Diagram) and ERD, implementation with PHP (Laravel), MySQL, and PWA technology, as well as testing through black box testing. The research results are a PWA application that provides drug search features, medical calculators (BMI,APGAR Score, Glasgow Coma Scale), drug and disease data management, and user management. This application has been proven to accelerate access to drug information and facilitate real-time data updates. It is accessible across platforms (desktop/mobile) without installation from an app store.

Keywords: *Hospital Formulary, Progressive Web App, Health Application.*

Abstrak

Pengelolaan formularium secara manual di Rumah Sakit Ibu dan Anak (RSIA) Sitti Khadijah Gorontalo menggunakan buku fisik menghadapi berbagai kendala, seperti proses pembaruan yang lambat, risiko kesalahan pencatatan, kesulitan akses informasi cepat, serta ketidakmampuan integrasi dengan sistem digital. Penelitian ini bertujuan merancang dan membangun aplikasi formularium berbasis *Progressive Web App* (PWA) untuk mengatasi permasalahan tersebut, guna meningkatkan efisiensi akses data obat dan akurasi informasi bagi tenaga medis. Metode pengembangan sistem menggunakan model *Waterfall* dengan tahapan analisis kebutuhan melalui observasi dan wawancara, perancangan sistem menggunakan diagram UML (*Activity Diagram, Sequence Diagram*) dan ERD, implementasi dengan PHP (*Laravel*), *MySQL*, dan teknologi PWA, serta pengujian melalui black box testing. Hasil penelitian berupa aplikasi PWA yang menyediakan fitur pencarian obat, kalkulator medis (BMI, *APGAR Score, Glasgow Coma Scale*), manajemen data obat dan penyakit, serta pengelolaan pengguna. Aplikasi ini terbukti mempercepat akses informasi obat dan memudahkan pembaruan data secara real-time, dan dapat diakses lintas platform (desktop/mobile) tanpa instalasi dari toko aplikasi.

Kata Kunci: Formularium Rumah Sakit, Progressive Web App, Aplikasi Kesehatan.