

ABSTRAK

Penelitian ini berhasil mengembangkan sebuah Aplikasi Transparansi Penanganan dan Penyuluhan Infrastruktur Drainase Berbasis Website (SIDRAIN) untuk Dinas Pekerjaan Umum dan Penataan Ruang (PUPR) Kota Palembang, yang secara efektif mengatasi permasalahan pengelolaan drainase yang sebelumnya dilakukan secara terpisah-pisah dan rentan terhadap ketidakakuratan data serta minimnya transparansi kepada masyarakat. Aplikasi ini, yang dibangun menggunakan metode Waterfall dengan teknologi PHP (Laravel), JavaScript, CSS, HTML, dan MySQL, telah terbukti mampu mengintegrasikan empat peran pengguna utama (masyarakat umum, admin, petugas lapangan, dan pimpinan) serta menyediakan fitur-fitur esensial seperti pelaporan pengaduan warga dengan pelacakan nomor tiket, pembaruan progres penanganan lapangan, pemetaan spasial titik rawan genangan, dashboard analitik real-time, konten penyuluhan digital, dan pencetakan rekapitulasi laporan PDF, yang semuanya telah divalidasi berfungsi optimal melalui pengujian Black Box. Dengan demikian, sistem baru ini secara signifikan meningkatkan efisiensi operasional, akurasi dokumentasi, transparansi, dan akuntabilitas dalam pengelolaan infrastruktur drainase di lingkungan dinas, sekaligus memfasilitasi partisipasi aktif masyarakat dan pengambilan keputusan yang lebih cepat dan berbasis data.

Kata kunci: Aplikasi, Drainase, *Website*, Transparansi, *Monitoring*, *Waterfall*, *Black Box Testing*

ABSTRACT

This research successfully developed a Web-Based Drainage Infrastructure Handling and Extension Transparency Application (SIDRAIN) for the Department of Public Works and Spatial Planning (PUPR) of Palembang City, effectively addressing the previously fragmented drainage management system that was prone to data inaccuracies and a lack of public transparency. The application, built using the Waterfall method with PHP (Laravel), JavaScript, CSS, HTML, and MySQL technologies, has proven capable of integrating four primary user roles (general public, administrator, field officer, and executive leadership) while providing essential features such as public complaint reporting with ticket tracking, field progress updates, spatial mapping of flood-prone areas, a real-time analytics dashboard, digital extension content, and PDF report generation, all of which were validated to function optimally through Black Box Testing. Consequently, this new system significantly improves operational efficiency, data accuracy, transparency, and accountability in drainage infrastructure management, while simultaneously facilitating active public participation and faster, data-driven decision-making.

Keywords: Application, Drainage, Website, Transparency, Monitoring, Waterfall, Black Box Testing