

**YOGA SUGIONO, 22.230.0002**

**SISTEM INFORMASI MANAJEMEN LAYANAN SPAM (SISTEM PENGELOLAAN AIR MINUM) BERBASIS WEB DI DESA GEMUH.** Dibawah Bimbingan Bapak Satriedi Wahyu B., S.Si., M.Kom., dan Bapak Mosses Aidjili, S.Kom., M.Kom.

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## **ABSTRAK**

*Pengelolaan layanan Sistem Penyediaan Air Minum (SPAM) di Desa Gemuh saat ini masih dilakukan secara konvensional, sehingga berpotensi mengakibatkan kesalahan pada pencatatan data, keterlambatan dalam proses rekapitulasi, serta kurang optimalnya efisiensi administrasi. Penelitian ini difokuskan pada perancangan desain dan pembangunan sistem informasi manajemen layanan SPAM berbasis web yang bertujuan untuk meningkatkan ketepatan dan efektivitas pengelolaan data. Pengembangan sistem dilakukan dengan menggunakan model Waterfall meliputi tahapan analisa kebutuhan, perancangan sistem dengan Unified Modeling Language (UML), implementasi, serta pengujian sistem dengan metode black box testing dan white box testing. Sistem dibangun menggunakan framework Laravel dengan dukungan database MySQL serta dilengkapi fitur pembayaran digital melalui integrasi payment gateway Xendit. Fitur utama yang tersedia meliputi pengelolaan data pelanggan, pencatatan pemakaian air, pembuatan tagihan, riwayat pembayaran, manajemen pengguna berbasis peran, serta penyajian laporan. Berdasarkan hasil uji, sistem mampu dioperasikan sesuai dengan kebutuhan pengguna serta memberikan kemudahan dalam proses administrasi sehingga menjadi semakin cepat, akurat, dan terorganisir.*

Kata kunci: Sistem Penyediaan Air Minum, Metode Waterfall, *Laravel*, *Payment Gateway*, Desa Gemuh.

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**SISTEM INFORMASI MANAJEMEN LAYANAN SPAM (SISTEM PENGELOLAAN AIR MINUM) BERBASIS WEB DI DESA GEMUH.** Under The Supervision of Mr. Satriedi Wahyu B., S.Si., M.Kom., and Mr. Mosses Aidjili, S.Kom., M.Kom.

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## **ABSTRACT**

*The management of the Drinking Water Supply System (SPAM) in Gemuh Village is currently still carried out using conventional methods, which can potentially lead to errors in data recording, delays in the data compilation process, and suboptimal administrative efficiency. This research focuses on the design and development of a web-based SPAM service management information system aimed at improving the accuracy and effectiveness of data management. System development was conducted using the Waterfall model, encompassing the stages of requirements analysis, system design using the Unified Modeling Language (UML), implementation, and system testing using black-box and white-box testing methods. The system was built using the Laravel framework with MySQL database support and is equipped with digital payment features through integration with the Xendit payment gateway. Key features include customer data management, water usage recording, billing, payment history, role-based user management, and report generation. Based on test results, the system operates effectively to meet user needs and streamlines administrative processes, making them faster, more accurate, and better organized.*

*Keywords: Water Supply System, Waterfall Method, Laravel, Payment Gateway, Gemuh Village.*