

## ABSTRAK

### PERANCANGAN SMART VILLAGE SERVICE BERBASIS QR-CODE DI DESA PAYUNG BATU LAMPUNG TENGAH

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Perkembangan teknologi informasi mendorong penerapan konsep Smart Village sebagai solusi untuk meningkatkan kualitas pelayanan administrasi, transparansi informasi, dan promosi potensi desa. Desa Payung Batu di Kabupaten Lampung Tengah masih menerapkan proses administrasi secara manual, sehingga menyebabkan keterlambatan pembuatan surat, keterbatasan akses informasi, serta kurang optimalnya promosi produk UMKM lokal. Penelitian ini bertujuan untuk merancang Smart Village Service berbasis website yang mampu menyediakan layanan surat digital, informasi desa, serta publikasi UMKM. Metode pengembangan sistem menggunakan Personal Extreme Programming (PXP) karena bersifat iteratif dan fleksibel dalam menyesuaikan kebutuhan pengguna. Sistem dibangun menggunakan bahasa pemrograman PHP dan database MySQL, serta dilengkapi fitur verifikasi QR-Code untuk menjamin keaslian dokumen. Pengujian dilakukan menggunakan metode Black Box Testing pada fungsi utama seperti permintaan surat, validasi QR-Code, dan manajemen informasi desa. Hasil implementasi menunjukkan bahwa sistem mampu meningkatkan efisiensi pelayanan administrasi desa, memperkuat transparansi informasi, serta mendukung promosi ekonomi masyarakat. Dengan demikian, Smart Village Service ini dapat menjadi inovasi awal dalam mendukung modernisasi desa menuju konsep Smart Village yang lebih komprehensif di masa mendatang.

**Kata Kunci:** Smart Village, QR-Code, Personal Extreme Programming, Administrasi Digital, Black Box Testing

**ABSTRACT****DESIGN OF A QR CODE–BASED SMART VILLAGE SERVICE IN PAYUNG  
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The rapid advancement of information technology has encouraged the adoption of the Smart Village concept as a solution to improve administrative service quality, information transparency, and the promotion of village potential. Payung Batu Village, located in Central Lampung Regency, still applies manual administrative processes, resulting in delays in document issuance, limited access to information, and suboptimal promotion of local MSME (Micro, Small, and Medium Enterprise) products. This study aims to design a web-based Smart Village Service capable of providing digital letter services, village information, and MSME publication features. The system development process adopted the Personal Extreme Programming (PXP) methodology due to its iterative and flexible nature in accommodating user requirements. The system was developed using the PHP programming language and a MySQL database, and it was equipped with a QR Code verification feature to ensure document authenticity. System testing was conducted using the Black Box Testing method on key functions such as letter requests, QR Code validation, and village information management. The implementation results showed that the system improved the efficiency of village administrative services, enhanced information transparency, and supported local economic promotion. Therefore, the proposed Smart Village Service represents an initial innovation toward advancing rural modernization and realizing a more comprehensive Smart Village concept in the future.

**Keywords:** Smart Village, QR Code, Personal Extreme Programming, Digital Administration, Black Box Testing