

ABSTRAK

Badan Penanggulangan Bencana Daerah (BPBD) Provinsi Sumatera Selatan memiliki peran penting dalam pengelolaan logistik dan peralatan penanggulangan bencana guna mendukung kegiatan tanggap darurat. Namun, proses pencatatan barang masuk, monitoring persediaan, distribusi logistik, peminjaman peralatan, serta pembuatan dokumen administrasi masih dilakukan secara manual menggunakan aplikasi perkantoran terpisah sehingga menyebabkan kesulitan dalam pemantauan data, meningkatkan risiko kesalahan pencatatan, dan memperlambat pelayanan. Penelitian ini bertujuan untuk merancang dan membangun Aplikasi Monitoring dan Distribusi Logistik serta Peralatan Penanggulangan Bencana Berbasis Website pada BPBD Provinsi Sumatera Selatan guna mendukung pengelolaan logistik dan peralatan secara lebih efektif dan terintegrasi. Metode pengembangan sistem yang digunakan adalah Waterfall yang meliputi analisis kebutuhan, perancangan sistem, implementasi, pengujian, dan pemeliharaan. Perancangan sistem dilakukan menggunakan UML. Aplikasi dibangun menggunakan framework Laravel, bahasa pemrograman PHP, dan database MySQL. Sistem yang dihasilkan menyediakan fitur pengelolaan data logistik dan peralatan, pencatatan barang masuk, monitoring stok, distribusi logistik melalui Surat Permintaan Barang dan Berita Acara Serah Terima Hibah Barang, peminjaman serta pengembalian peralatan melalui Berita Acara Pinjam Pakai Barang, kartu stok, stock opname, laporan persediaan, dan monitoring aktivitas pengguna. Hasil pengujian Black Box Testing menunjukkan seluruh fungsi sistem berjalan sesuai kebutuhan pengguna. Dengan adanya aplikasi ini, proses monitoring dan distribusi logistik serta peralatan dapat dilakukan secara lebih akurat, terintegrasi, dan efisien sehingga mendukung pengelolaan sumber daya penanggulangan bencana di BPBD Provinsi Sumatera Selatan.

Kata Kunci: Website, Waterfall, Monitoring, Distribusi, Logistik, Peralatan

ABSTRACT

The Regional Disaster Management Agency (BPBD) of South Sumatra Province plays an important role in managing disaster logistics and equipment to support emergency response activities. However, the processes of recording incoming goods, monitoring inventory, distributing logistics, borrowing equipment, and preparing administrative documents are still carried out manually using separate office applications. This condition causes difficulties in data monitoring, increases the risk of recording errors, and slows down service processes. This study aims to design and develop a Web-Based Disaster Logistics and Equipment Monitoring and Distribution Application at BPBD of South Sumatra Province to support logistics and equipment management in a more effective and integrated manner. The system development method used in this study is the Waterfall model, which consists of requirement analysis, system design, implementation, testing, and maintenance stages. System design was carried out using Unified Modeling Language (UML). The application was developed using the Laravel framework, PHP programming language, and MySQL database. The resulting system provides features for managing logistics and equipment data, recording incoming goods, monitoring stock availability, distributing logistics through Goods Request Letters and Goods Handover Reports, borrowing and returning equipment through Goods Loan and Use Reports, stock cards, stock opname, inventory reports, and user activity monitoring. The results of Black Box Testing indicate that all system functions operate according to user requirements. The implementation of this application enables logistics and equipment monitoring and distribution processes to be carried out more accurately, efficiently, and in an integrated manner, thereby supporting disaster resource management at BPBD of South Sumatra Province.

Keywords: Website, Waterfall, Monitoring, Distribution, Logistics, equipment