

PENGEMBANGAN SISTEM INFORMASI *MOBILE-WEB* DENGAN *ROLE-BASED ACCESS CONTROL* (RBAC) UNTUK PENUGASAN DAN PEMERIKSAAN KESEHATAN DI BADAN KARANTINA INDONESIA

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ABSTRAK

Badan Karantina Indonesia masih menggunakan sistem BEST-TRUST yang memiliki keterbatasan, seperti antarmuka *mobile* yang kurang optimal, belum mendukung perekaman GPS dan unggah foto, bergantung pada koneksi internet, serta belum menerapkan pembatasan akses berbasis wilayah. Penelitian ini bertujuan menganalisis kebutuhan, merancang, mengimplementasikan, dan menguji sistem informasi *mobile-web* untuk mendukung penugasan dan pemeriksaan kesehatan karantina hewan, ikan, dan tumbuhan. Sistem dikembangkan menggunakan Flutter dan Laravel dengan metode Agile Scrum dalam empat *sprint*. Fitur utama meliputi *Role-Based Access Control* (RBAC), perekaman GPS otomatis, mode *offline* dengan sinkronisasi data, dan notifikasi *Firebase Cloud Messaging* (FCM). Pengujian *Black Box Testing* pada 68 skenario di 15 *use case* menunjukkan seluruh fungsi berjalan sesuai rancangan. *User Acceptance Test* (UAT) oleh delapan responden memperoleh tingkat penerimaan sebesar 90,2% (Sangat Baik). Hasil penelitian menunjukkan sistem berpotensi meningkatkan efisiensi, transparansi, dan akuntabilitas operasional karantina di Badan Karantina Indonesia.

Kata Kunci: Agile Scrum, Flutter, Laravel, *Role-Based Access Control*, Sistem Informasi *Mobile-Web*

***DEVELOPMENT OF A MOBILE-WEB INFORMATION SYSTEM WITH
ROLE-BASED ACCESS CONTROL (RBAC) FOR TASK ASSIGNMENT AND
HEALTH INSPECTION AT THE INDONESIAN QUARANTINE AGENCY***

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ABSTRACT

The Indonesian Quarantine Agency currently uses the BEST-TRUST system, which has several limitations, including a suboptimal mobile interface, the absence of GPS recording and photo upload features, dependence on internet connectivity, and the lack of region-based access restrictions. This study aims to analyze requirements, design, implement, and evaluate a mobile-web information system to support assignment management and health inspection for animal, fish, and plant quarantine. The system was developed using Flutter and Laravel with the Agile Scrum method across four sprints. Key features include Role-Based Access Control (RBAC), automatic GPS recording, offline mode with data synchronization, and Firebase Cloud Messaging (FCM) notifications. Functional testing using Black Box Testing on 68 scenarios across 15 use cases showed that all functions performed as designed. User Acceptance Testing (UAT) involving eight respondents achieved an acceptance score of 90.2% (Very Good). The results indicate that the proposed system has the potential to improve the efficiency, transparency, and accountability of quarantine operations at the Indonesian Quarantine Agency

Keywords: *Agile Scrum, Flutter, Laravel, Mobile-Web Information System, Role-Based Access Control*