

ABSTRAK

Perkembangan sistem informasi multi-platform dapat menyebabkan fragmentasi data akibat perbedaan mekanisme pengelolaan data antar sistem. Permasalahan tersebut terjadi pada platform eBengkelku.com, di mana sistem web berbasis Laravel menggunakan MySQL, sedangkan aplikasi mobile Flutter terhubung langsung dengan PostgreSQL Supabase melalui Supabase SDK. Penelitian ini bertujuan membangun mekanisme integrasi sistem menggunakan REST API dan ETL untuk mendukung konsolidasi data dan penerapan *single source of truth* (SSOT). Metode penelitian yang digunakan adalah Design Science Research (DSR). REST API dikembangkan sebagai lapisan integrasi antara aplikasi mobile dan backend Laravel, sedangkan ETL digunakan untuk migrasi data dari PostgreSQL menuju MySQL. Hasil penelitian menunjukkan bahwa aplikasi mobile berhasil terintegrasi melalui REST API dan data utama sistem berhasil dipusatkan pada MySQL sebagai SSOT. Implementasi integrasi juga meningkatkan konsistensi data dan mengurangi fragmentasi data antar platform.

Kata Kunci: Integrasi Sistem, REST API, ETL, *Single Source of Truth*, Interoperabilitas, Konsolidasi Data, Design Science Research.

ABSTRACT

The development of multi-platform information systems may lead to data fragmentation due to differences in data management mechanisms across systems. This issue occurred in the eBengkelku.com platform, where the Laravel-based web system used MySQL, while the Flutter mobile application directly connected to PostgreSQL Supabase through the Supabase SDK. This study aims to develop a system integration mechanism using REST API and ETL to support data consolidation and the implementation of a single source of truth (SSOT). The research method used was Design Science Research (DSR). REST API was developed as an integration layer between the mobile application and the Laravel backend, while ETL was implemented to migrate data from PostgreSQL into MySQL. The results showed that the mobile application was successfully integrated through REST API and the main system data were centralized in MySQL as the SSOT. The integration also improved data consistency and reduced data fragmentation across platforms.

Keywords: *System Integration, REST API, ETL, Single Source of Truth, Interoperability, Data Consolidation, Design Science Research.*