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IMPLEMENTASI RESTFUL API PADA APLIKASI SHRIMP CARE

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ABSTRAK

Budidaya udang merupakan subsektor perikanan yang memiliki potensi besar, khususnya di Budidaya Udang Berbasis Kawasan (BUBK) Kebumen, Jawa Tengah, namun praktik pencatatan data kualitas air dan aktivitas budidaya masih dilakukan secara manual sehingga data tidak terstruktur, sulit ditelusuri secara historis, serta menghambat pengambilan keputusan. Penelitian ini bertujuan untuk merancang dan mengimplementasikan RESTful API sebagai sarana utama komunikasi data antara frontend dan backend pada aplikasi Shrimp Care guna mendukung digitalisasi pengelolaan data budidaya udang. Metode penelitian yang digunakan meliputi wawancara, dokumentasi, dan studi literatur, dengan metode pengembangan sistem menggunakan model waterfall. Backend RESTful API dikembangkan menggunakan framework ElysiaJS, Prisma ORM, serta basis data PostgreSQL berbasis cloud melalui Supabase. Pengujian sistem dilakukan menggunakan metode blackbox testing dan API testing dengan Postman untuk memastikan seluruh endpoint berfungsi sesuai kebutuhan fungsional. Hasil penelitian menunjukkan bahwa RESTful API yang dibangun mampu mengelola data budidaya udang secara terstruktur dan terintegrasi, meliputi data klaster, petakan, siklus budidaya, kualitas air, sampling pertumbuhan, dan hasil uji laboratorium. Implementasi RESTful API ini meningkatkan efisiensi pencatatan, kemudahan akses data, serta keandalan pengelolaan data budidaya secara digital. Selain itu, implementasi RESTful API pada aplikasi Shrimp Care telah mendukung penerapan model layanan berbasis langganan melalui pengelolaan data pengguna dan status berlangganan secara terintegrasi.

Kata Kunci: RESTful API, Budidaya Udang, Shrimp Care, Digitalisasi, Backend Service

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RESTFUL API IMPLEMENTATION IN SHRIMP CARE APPLICATION

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ABSTRACT

Shrimp cultivation is a fisheries subsector with great potential, especially in the Area-Based Shrimp Cultivation (BUBK) in Kebumen, Central Java. However, the practice of recording water quality data and cultivation activities is still done manually, resulting in unstructured data, difficult to trace historically, and hampering decision-making. This study aims to design and implement a RESTful API as the primary means of data communication between the frontend and backend of the Shrimp Care application to support the digitalization of shrimp cultivation data management. The research methods used include interviews, documentation, and literature studies, with the system development method using the waterfall model. The backend RESTful API was developed using the ElysiaJS framework, Prisma ORM, and a cloud-based PostgreSQL database via Supabase. System testing was carried out using blackbox testing and API testing methods with Postman to ensure all endpoints function according to functional requirements. The results of the study indicate that the developed RESTful API is able to manage shrimp cultivation data in a structured and integrated manner, including cluster data, maps, cultivation cycles, water quality, growth sampling, and laboratory test results. The implementation of this RESTful API improves record-keeping efficiency, ease of data access, and the reliability of digital cultivation data management. Furthermore, the RESTful API implementation in the Shrimp Care application supports the implementation of a subscription-based service model through integrated management of user data and subscription status.

Keywords: RESTful API, Shrimp Cultivation, Shrimp Care, Digitalization Backend Service