IMPLEMENTATION OF REST API IN THE MONITORING TOOL INTERFACE APPLICATION FOR SHRIMP PONDS

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Abstract

Increasing shrimp pond productivity is a top priority in fisheries cultivation, especially with the challenge of maintaining water quality as a determining factor for success. The use of modern technology such as the Internet of Things (IoT) allows the integration of monitoring tools with software-based interface applications. This study aims to develop a shrimp pond monitoring tool interface application that uses REST API to connect IoT devices with a Flutter-based application system. The methods used include software development using prototyping with a system design approach based on evaluations received from users to obtain results that meet user needs. The data obtained is sent to Firebase via REST API and displayed in real-time on a Flutter-based application. The results of the study show that the application of REST API allows faster and reliable data transmission between IoT devices and interface applications. The resulting application makes it easy for users to monitor pond conditions in real-time via mobile devices. This technology supports more faster pond management by delivering information accurately. This research is expected to be the basis for further development of IoT-based pond monitoring systems, with a focus on improving system features and reliability to support the sustainability of shrimp pond cultivation.

Keywords: Firebase, Flutter, REST API, Internet of Things (IoT), aquaculture monitoring