

ABSTRACT

This research aims to develop an Internet of things (IoT)-based dashboard system backend and logistics management on Aquatic's Vertical crab house platform, an innovation in crab farming that uses a vertical approach. This approach differs from traditional farming methods as it allows individualized monitoring of crabs in separate and stacked modules, resulting in more efficient use of space. In this study, IoT technology was integrated to provide real-time monitoring capabilities of the crab's environmental conditions, including important parameters such as temperature, humidity, and water quality. This is expected to assist crab farmers in maintaining optimal conditions for crab growth. The methodology used in the development of this system is extreme programming, which was chosen due to its iterative and collaborative nature, allowing for quick adjustments to user needs. The developed backend supports various features such as crab data management, IoT integration for environmental condition monitoring, and logistics management that includes distribution and supply of cultivation needs. These features are connected to various key actors in the system, such as Super Admin and Supply Merchant, who have important roles in aquaculture operations. The results show that the developed backend system is able to support vertical crab house operations well, especially in terms of monitoring and logistics management. The use of IoT technology in this system allows farmers to conduct supervision in a more detailed and structured manner, as well as optimize the distribution and supply process. Thus, this platform is expected to contribute significantly in increasing the productivity and market expansion of the crab farming industry, especially in the context of innovative vertical farming.

Keywords: *Internet of things, Logistics Management, Crab farming, Vertical crab house, Backend Development*