

ABSTRACT

Duck farming in Bangkalan Regency has great potential as a promising business sector. According to data from the Central Statistics Agency of Bangkalan Regency, the average per capita expenditure per month for duck meat in 2018 reached IDR 20,024.39. Research from an academic journal shows that the demand for broiler ducks in Bangkalan Regency reaches 1,200,000 ducks per year, while local production is only around 600,000 ducks per year, indicating a significant gap between supply and demand. One example is the Bangkalan Duck Farmers Association, which consists of 25 farmers, many of whom face difficulties in selling their harvests. This problem is caused by several factors, including a lack of communication and coordination between farmers and buyers, as well as the fact that many farmers are not registered, making it difficult for buyers to find and contact them to negotiate duck sales. Additionally, farmers have limited access to market information regarding prices, quality, and demand for broiler ducks in the local market. As a result, many farmers suffer losses because they sell ducks at prices that do not reflect market value. To address this issue, this study aims to design and develop a web-based marketplace application specifically for duck farmers, using the extreme programming method. This method was chosen due to its short and communicative development cycles, which can reduce misunderstandings during the development process and provide additional education for users. The extreme programming method includes several stages: planning to analyze application requirements, designing architecture and user interfaces that are easy to understand, coding the application, and testing the completed application. The marketplace is built using the PHP programming language, Laravel framework, and MySQL database, resulting in a website that provides comprehensive information about the location, type, and price of ducks from various farmers. The application has three main user types: admin, duck farmers, and customers. Admins have the authority to manage all data within the application, ensuring that the information available is always up-to-date and accurate. Duck farmers can input and manage their farm data, including location, type, stock, and prices of the ducks they offer. On the other hand, customers can access the data entered by the farmers, which includes information about the

location, type, and price of ducks, as well as contact the farmers through the contact information available in the application. With this application, the gap between supply and demand for broiler ducks can be minimized, allowing farmers to sell their harvests more efficiently and obtain prices that reflect market value. Additionally, this application can improve coordination and communication between farmers and buyers and provide better market information access for farmers. With more accurate and easily accessible information, farmers can make better decisions in running their farming businesses. Besides helping with marketing, this application also serves as an educational and informational tool, enhancing farmers' knowledge and skills in managing their businesses. The application testing phase used two methods, namely blackbox testing and user acceptance testing, with results indicating that it functions properly and meets user needs.

Keywords— blackbox testing, extreme programming, Kabupaten Bangkalan, marketplace, user acceptance testing