

ABSTRACT

The Batik Museum of Pekalongan plays a vital role in preserving cultural heritage by introducing the richness of traditional Pekalongan batik motifs to the public. However, limited tour guides during peak visits and the lack of interactive educational media hinder the delivery of comprehensive information. This study aims to develop a web-based information system to assist visitors in recognizing eight Pekalongan batik motifs through image uploads and brief motif descriptions as an educational medium. The system is built using an image classification model based on Convolutional Neural Network (CNN) with the MobileNetV2 architecture, complemented by CRUD features for admin management and a chatbot that responds to general questions. The development follows the Extreme Programming (XP) methodology, consisting of three iterations: planning, design, implementation, and testing. Evaluation results show a validation classification accuracy of 93.75%, and user satisfaction from User Acceptance Testing reached 89.27%. These findings indicate that the system effectively supports educational and cultural preservation efforts by enhancing access to information about batik motifs for visitors to the Batik Museum of Pekalongan.

Keywords: *pekalongan batik, website, convolutional neural network, extreme programming*