

ABSTRACT

The attendance system at SD Negeri 1 Purbalingga Lor currently still relies on manual recording using attendance books due to damage to the previous fingerprint-based system. As a result, the process of recording attendance has become inefficient, time-consuming, and prone to manipulation. This condition highlights a gap between the error-prone manual method and the need for an automated, accurate, and reliable attendance system. This study aims to develop a web-based attendance system using face recognition technology powered by the YOLOv8 algorithm. The system was developed using the Flask framework and SQLite database, and it is equipped with an admin panel for managing user data, scheduling, and attendance reporting. The identification process is carried out automatically through a camera without physical contact, using a model trained on facial datasets of teachers and staff. In addition, the system is capable of updating the model dynamically when new personnel data is added. Testing results show that the YOLOv8 model achieved a mean Average Precision (mAP) of 98.6% and a face detection accuracy of up to 93% under optimal conditions. Based on the results of the User Acceptance Testing (UAT), the system achieved an eligibility score of $\geq 83,75\%$, indicating that the system is considered feasible and appropriate for implementation.

Keywords: Attendance, Face Recognition, YOLOv8, Website, Deep Learning