

ABSTRACT

A person's personality reflects their individual identity, which is not always visible physically. Personality can be influenced by the environment, family, and innate traits since birth. The Golden Age of childhood is a critical period in development where personality potential should be optimally stimulated to avoid future problems. A child's personality formed through parenting styles at home significantly impacts their school environment, making it important for parents and teachers to understand a child's personality to provide appropriate support. However, current psychological tests used to assess children's personalities often fall short due to their lengthy duration and lack of parental approval.

As a solution, this project develops a machine learning-based system capable of identifying children's personalities through the analysis of palm lines presented in a mobile application called Persona. This application is designed to provide a more efficient and accurate way to identify children's personalities. With this application, it is hoped to assist teachers and parents in recognizing students' and children's personalities.

The test results show that the Persona application is effective in identifying children's personalities with a high level of accuracy. Testing the palm detection algorithm achieved 100% accuracy, mAP50 99.5%, and mAP50-95 97.4%. The classification algorithm showed 92.3% accuracy in training data and 92.2% in testing data for the first model, and 100% accuracy in training data and 93.3% in testing data for the second model. Testing the detection system in the application showed 100% accuracy when the conditions were outdoors with an image capture distance of 30 cm and an angle of 90°. Alpha testing shows that the application functions 100% according to its function, unit testing reaches 100%, load testing indicates that the API system can run efficiently on light to medium loads, but is inefficient when facing heavy loads. Beta testing obtained a Cronbach Alpha Coefficient value of 0.91, exceeding the critical point of 0.220. The identification results have been validated by counseling teachers with an average of 78.39%. Meanwhile, validation by comparing identification results with other applications obtained an average of 57.78%. UAT at SD Maria Bintang Laut Elementary School by the counseling teacher stated that the Persona application helps in identifying students' personalities.

Keywords: children's personality, machine learning, mobile application, palm line analysis