ABSTRACT

Fingerprint are one example of biometrics used everyday such as to recognize the identity of the person and as a security of personal item. Fingerprint have unique characteristic each individual and have consistent properties over time. With fingerprint, one's identity can be known through the patterns in the fingerprint. Fingerprint patterns is so complicated to matched manually. The required system can match the fingerprint accurately. There are several classification methods that can be used to identity fingerprint such as minutiae, wavelet, and more. In this fingerprint classified system there are several stages in system design there are image enhancement, feature extraction, and matching. In this research, the minutiae method is choosen by using hit or miss transform and matching method using template matching. Performance measurement will be done after system design stage is done. The result of research fingerprint classification system without alignment pattern can give performance system equal to 48.97%, and the performance of the system with the addition of alignment pattern 67.92%.

Keywords: **fingerprint, image enhancement, morphology, template matching, matching, alignment pattern**