

## ABSTRACT

Face biometric identification system is an individual recognition system which use face biometric characteristic from the individu. Human face recognition is one of the segment that improve enough in this time, this application is able to used in security system such as access permission, location controlling or individual identity identification at police database.

Face biometric identification system that had programed in this research consist of 3 partition system, such as : pre-processing system, feature ekstraction, and klasifikation system. Feature extraction system has a purpose to extract a few of features that similar with the input feature from the whole of feature that available in database. Classification system has a purpose to identify one of the feature among of a few features as a result of the feature extraction proses.

This research describe about the method of 2D gabor wavelet for face feature analysis to extract characteristics in an image. The use of the 2D filter Gabor wavelet motivated by the result of some biology reseach with the similar of eyes system, nose, mouth and eyebrow. The result of 2D filter gabor wavelet transform is use an input for clasification, in this project use the clasification system with the simple method which is k-nearest neighbor (K-NN) to identify face feature. The result from the reseach we get the accuracy of system 100% with K =1 and time to identification is 6,65 s.

*Keyword* : *biometric, 2D gabor wavelet filter, k-nearest neighbor, pre-processing*