

## ***Abstract***

*Face recognition is a topic of interest to conduct research, this is due to the ability of a computer is not the same as the human ability to be able to recognize every face that has been known for many years and at first glance, therefore, necessary to train the learning phase so that eventually the system can recognize the image faces tested. In face recognition, there are two stages of face detection and face classification. Before entering the classification stage, the face that has been detected will be processed via the process of feature extraction.*

*In this final project, feature extraction process using Eigenface methods contained in the mathematical calculation of Principal Component Analysis (PCA). The principle is how to extract a face image into a collection of feature vector which will be input in the process of classification. Classification is done using the method of Support Vector Machine (SVM), where the principle is to separate a collection of feature that have been mapped into high dimensional space, to further classified based on face classes.*

*Tests conducted on the test face image acquisition results as much as 50 webcam images with the testing criteria in determining the characteristics making Eigenface, determining the value of the parameter C in SVM, and the influence of the use of image enhancement of the resulting recognition accuracy. From the test results, obtained the best results with highest that is 95%.*

*Keywords: Face Recognition, Acquisition Webcam, Eigenface, Support Vector Machine, One-Against-All, Principal Component Analysis*