

## **ABSTRACT**

Face recognition is one of biometric technique that can recognized someone identity using his or her face. This technique is well-known because of its high accuracy and very applicable. Face recognition system have been used by many institute for its presence system also for the security verification system.

There are many methods for face recognition system, the well-known methods are eigenface, fisherface and laplacianace. These three methods quite often used on face recognition application. The eigenface methos use principal component analysis ( PCA ), fisherface use PCA and linear discriminant analysis ( LDA ) and laplacianface use PCA and Locality Preserving Projection ( LPP ). On this final project, the three method were compared by using some test scenario.

From the system simulation, we get that the highest accuration of eigenface is 95.79 %, when fisherface is 95.38 % and laplacianface is 91.59 %. This condition available on  $k = 1$  in the classification phase, and for the laplacianface method this condition happen when  $t = 7000000$ . Meanwhile, the motion blur affected the system badly when the pixel shift is 20. To increase the speed process we can resize the test image to half of the original size without decrease the accuracy drastically.

Key word : face recognition, eigenface, fisherface, laplacianface, PCA, LDA, LPP