ABSTRACT

At some big Companies which have some tight security system, they will need some identication system to identify their employee. Actually there are so many companies which used Smart Technology, but it really not good enough, because there are so many tools that can be used to multiply smart card. In that case we need some new mechanisms that can handle all of the problems. And then we have an idea to identify some person with his own face and it is called Face Recognition System.

To implement that idea, we need some good methods that can handle all of the problem we met. In this system, we need 2 main moduls that we call Face Detection modul and Face Recognition modul. Face Detection modul is used to captured the object from web camera and the other modul is Face Recognition modul that is used to training and recognizing person process. Face Detection use Chromatic Space as its algorithm and for Face Recognition use Eigenface as its Algorithm. Chromatic Space Algorithm and Eigenface Algorithm are chosen because of their less time needed process. For additional, Eigenface have good accuration for Face Matching process depend on error threshold value.

We analyze two main moduls that are Face Detection and Face Recognition. In Face Detection modul we will count amount of face's image captured by web camera in some case of time. In Face Recognition modul we will work to find out how much error threshold value that is good for the system to recognize some person. The result for Face Detection modul tell us that this modul is depend on background and lighting environment condition in its system is working in. The results for Face Recognition modul tell us that error threshold value that is good for system with 1 Class → 10 images manner is 0.0415 and that's mean if we use that error threshold value the system will give us 100% matched between input image and database image. From that analyze we have some conclusions that Chromatic Space algorithm is depend on backgroung and lighting environment condition and good error threshold value for Face Recognition system with 1 Class → 10 images manner is 0.0415.