Abstract

With the development of digital technology, nowadays, an image can give information that is needed. Images with noise can't give information that is contained in the images. By using noise reduction processing, the images can be fixed. One of the methods, which can be used to reduce the noise, is Mean and Median Filtering. In this Final Project, the noise reduction methods are *Fuzzy Weighted Mean* and *Fuzzy Weighted Median* methods. The whole processes include *Fuzzyfication, modification of membership function, and defuzzyfication*. Noises, which are used, are Additive Gaussian Noise, impulsive noise, additive laplacian which are generated by a noise generator. Performance parameter, which is tested on digital images, is *PSNR* (Peak Signal to Noise Ratio) which is the comparison between maximum points of calculated pixel with the affecting noise on that pixel. The performances, which are compared, are *Fuzzy Weighted Mean*, *Fuzzy weighted Median*, Mean Filtering, Median Filtering performances.

Keywords: *Fuzzyfication, modification of membership function, defuzzyfication, fuzzy weighted mean, fuzzy weighted median, PSNR*