Analysis of Introduction & Removal of Noise For enhancement In Images and Sound using Digital Filters.

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**Abstract:**

The abstract aims at detection and reduction of noise during transfer of grayscale image and sound. The basic aim is to investigate the effect of channel noise while transmitting an image as well as study it’s implications in ambient sound distortions in musical instruments. After detecting the noise level in the image & sound, noise reduction techniques are applied using filters. A noisy image is of low quality level. The experiment aims to detect the noise in an image and reduce the level of errors occurring.   
  
  
Different filters are used to detect the effect of noise in an image. After filtering the image, it is subjected to noisy channel and the result is analyzed using Matlab software. After representing an image with a matrix of dimensions 64x64, it is converted into 0’s and 1’s strings. Each entry has a value from 0 to 255. It is then passed through a noisy channel which adds error of different types to the transmitted signal. The receiver collects the signal, demodulates it and thus an image is received with noise. The filter used here is butter-worth for images and raised cosine filter.

This was about noise reduction for improvement in image quality. Secondly, we will present the utility of noise and controlled distortion in acoustics to enhance the sound ambience from musical instruments.

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We will be using various different signal modulation and processing techniques to create various effects of the sound that has been taken as input.