Watermarking

"Watermarking" is the process of hiding digital information. The hidden information should but does not need to, contain a relation to the carrier signal. Digital watermarks may be used to verify the authenticity or integrity of the carrier signal or to show the identity of its owners. It is prominently used for tracing copyright infringements and for banknote authentication.

Following is the implementation of this technique.

Implementation

The watermarking technique bit plane slicing is applied. The image used is shown below



This image is then watermarked using the following logo

Now the output as watermarked image is shown below



Gaussian high noise is added to watermarked image



The image is now filtered using low pass filter



Now the logo is retrieved and is shown below

On increasing noise, image gets disturbed and by keep doing this, it’s impossible to read the logo back.

**Conclusion**

The watermark is added to the given image by hiding information in LSB which does not show any visible or significant effect on the image. On increasing noise, the image is difficult to analyze and hence watermark can’t be retrieved if the noise is too high.