Simultaneously Realization of Image  
Enhancement Techniques On Real-Time Fpga

1. Spatial Domain Techniques which are commonly used in almost all ImageProcessing Techniques are discussed.
2. Histogram equalization, Image negatives, Image subtraction and Contrast stretching  
   operations under this category are performed simultaneously on Fpga.
3. The histogram is the graphical representation frequency of the values of the pixels on the image. The image histogram shows the detection of the pixels at each point of the scene and the number of these pixels.
4. After the histogram of the image is extracted, histogram equalization, Contrast Stretching, Image Negatives and image Subtraction are performed parallel to each other.
5. Histogram equalization can improve image quality by extending the density dynamic range with the entire image histogram. The image density distribution is normalized and the image is improved with a uniform intensity distribution. The following steps are performed in the histogram synchronization process.
6. In Contrast stretching an 8-bit image, values between 0-255 must be displayed. After contrast stretching, values between 0-255 are displayed. When contrast stretching process is applied, firstly minimum and maximum grey values are found in the image and a linear transformation is performed. All grey values are recalculated so that the minimum value 0 is the maximum value 255 and the other values fall within the range of 0-255.
7. In Image negative images with a black background, it makes white and grey tones stand out. In 8-bit images, the pixel value is subtracted from 255 to perform the invert operation. Obtained values are normalized in range (0,255).
8. With the Image Subtraction process, images on bright floors can be made more visible. Two input images can be extracted from each other and a third image can be obtained or a constant value can be extracted from an image.