We propose a non-linear image enhancement method based on Gabor filters, which allows selective enhancement based on the contrast sensitivity function of the human visual system. We also propose an evaluation method for measuring the performance of the algorithm and for comparing it with existing approaches. The selective enhancement of the proposed approach is especially suitable for digital television applications to improve the perceived visual quality of the images when the source image contains less satisfactory amount of high frequencies due to various reasons, including interpolation that is used to convert standard definition sources into high-definition images.