3.2 Embedding a secret image into source image and then extraction of secret image from the embedded image:

Figure 3.3: Embedding of an Image into an Image.

Figure 3.4: Extraction of an Image from Image.

3.3 Embedding a secret image into source video and then extraction of secret image from the embedded video:

Figure 3.5: Embedding of an Image into Video.

Figure 3.6: Extraction of Image from Video.

3.4 Embedding a secret video into source video and then extraction of secret video from the embedded video:

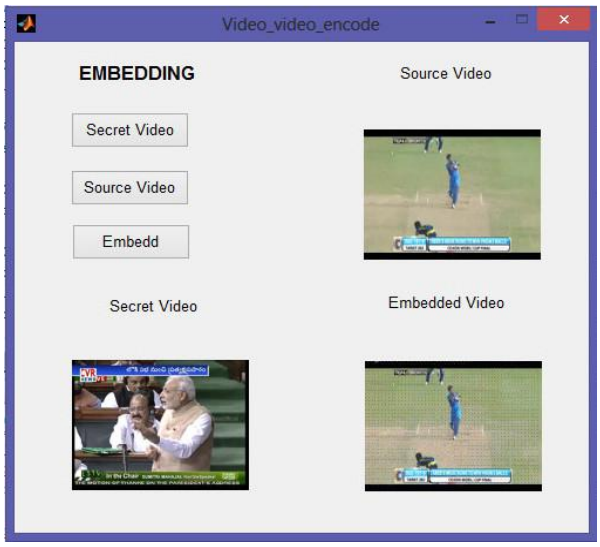

Figure 3.7: Embedding Video into Video.

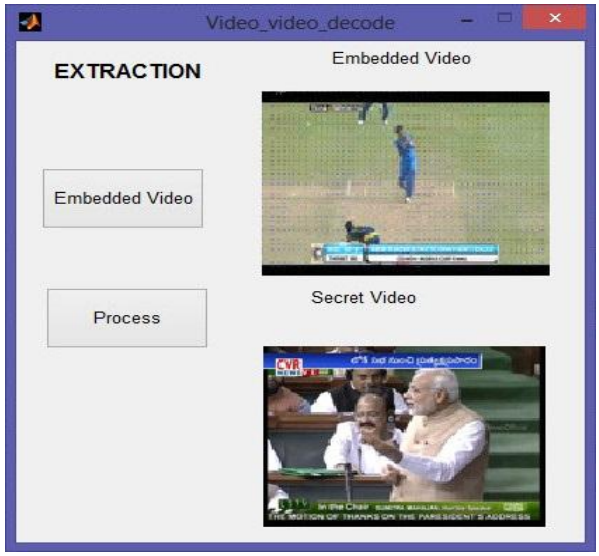

Figure 3.8: Extraction of Video from Video.

3.5 SNR Analysis

Figure 3.9 shows the SNR of secret image, embedded image and that of extracted image using PMDHT. For the purpose of analyzing the SNR, we are embedding the secret image 'world cup.bmp' into the source image 'Dhoni.bmp'. The SNR value of the secret image before its get embedded is 13.9243. Once it gets embedded with the source image file then the SNR value of the embedded image is 12.7900. After extraction of the secret image the SNR value of the extracted secret image is 13.9243. The result shows clearly that the secret image has been recovered without any degradation in the SNR value. The result of this is shown in figure 3.9.

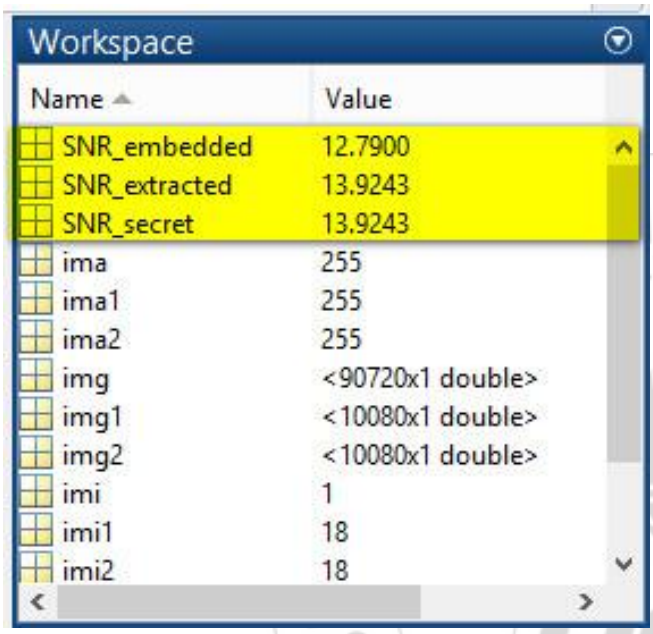

Figure 3.9: SNR of secret image, embedded image and an extracted image using PMDHT.

4. Conclusion

The presented work is powerful for secure communication. From the analysis of the results it is clear that the image quality (like brightness, sharpness) distortion is negligible. As all are embedded within the source image/video like size of secret image/video, content of it and MD5 key within the source image/video hence no other information is needed for decoding at receiver end. Finally, it can be easily extended at the recipient. Results are analyzed in terms of SNR of source image, an embedded image and an extracted image using PMDHT.

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