**Image and Video Processing**

**Subject Code: CMCA544**

**Course Project**

**Group member:** Yash Kanani (E23MCAG0083), Vijay Bhargav Bhamidi (E23MCAG0006)

**Title:** Pixel Cloak: Image Steganography for Secure Communication

**Description:**

Steganography hides the very existence of a message so that if successful it attracts no suspicion at all. Using steganography, information can be hidden in carriers such as images, audio files, text files, videos and data transmissions. In this study, we proposed a new framework of an image steganography system to hide a digital text of a secret message. The main idea for this is to manipulate the last bit of every pixel from 1 to 0 or vice versa and each changed bit would be a data bit. all the pixels in the image can be used as bits/pixel to hide data. The main goal of this method, like any steganography techniques must do, is to hide a text of a secret message in the pixels of the image in such a manner that the human visual system is not able to distinguish between the original and the stego-image, as only the LSB (Least Significant Bit) is being altered there is no significant change in the color of pixel, but it can be easily performed by a specialized reader machine. Results: The recorded experimental results showed that this proposed method can be used effectively in the field of steganography.

**Expected Outcomes:**

1) The carrier images that are used in the experiments of this research have no discernible change in it.

**References:**

1. Wolfgang, R.B. and E.J. Delp, 1996. Watermark for digital images. Proceeding of the IEEE International Conference on Image Processing, Sep. 16-19, IEEE Computer Society, Washington DC., USA., pp: 219-222. DOI: 10.1109/ICIP.1996.560423
2. Image Steganography by Mapping Pixels to Letters Mohammed A.F. Al-Husainy Department of Computer Science, Faculty of Sciences and IT, Al-Zaytoonah University of Jordan
3. Judge,J.C.,2001.Steganography:Past,present,future. http://www.sans.org/reading\_room/whitepapers/stenganography/steganography\_past\_present\_future\_ 552