Enhancing the Least Significant Bit (LSB) Algorithm for Steganography

Abstract

Various Steganography algorithms have been proposed and implemented for hiding the existence of data in a cover object starting from the algorithms that work in transform domain to the ones that work in spatial domain, such as Least Significant Bit (LSB), which uses the three colours (RED, GREEN and BLUE) present in an image. Three colours are present in the pixel of an image, therefore, this project proposed a new algorithm that chooses only the two colours (GREEN and BLUE) out of the three colours (RED, GREEN and BLUE) that made up of a pixel present in an image to hide data. This proposed algorithm successfully hides the data with the two colours (GREEN and BLUE) present in an image with no significant changes in the resulting colours of the image. The result of this experiment has shown the effectiveness of the proposed algorithm. This experimental result has shown that the algorithm strikes a balance between the security and the quality of the image. It should be noted that this research work only considers image as the cover object, other forms of cover object are not considered here. It should also be noted that the algorithm only hides data from 8 bytes to 1024 bytes using two different images of different size, which shows no effect on the effectiveness of the algorithm.
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References

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Technology


Index Terms

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Keywords

Steganography, least significant bit, colour, data, algorithm