UNIVERSITY AT ALBANY

State University of New York

DEPARTMENT OF COMPUTER SCIENCE

ICSI-526/426 Cryptography – Spring 2016

Assignment 3

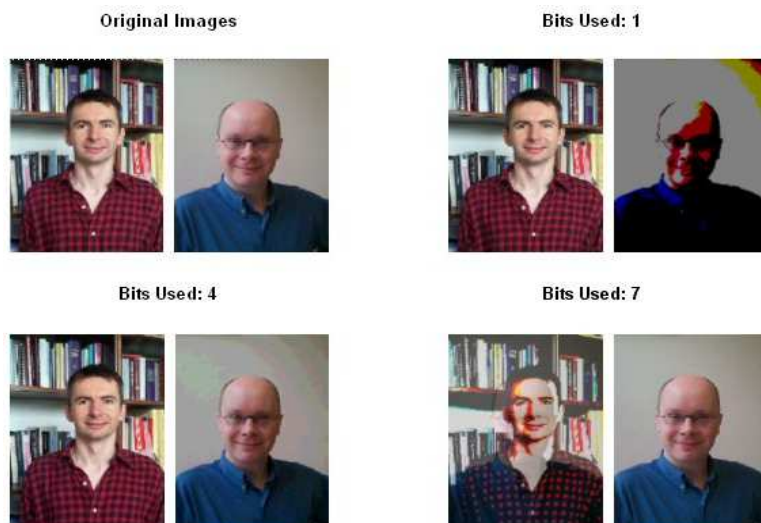**Due date: April 7, 2016, 11:59 p.m.**   **Total marks: 10**

The purpose of this assignment is to solidify the concepts of image hiding that were discussed in class.

Late submissions would have penalty 10% every day up to five days.

Problem Description

Consider the image hiding example given in the class (and shown in the figure below).

The source code for this example can be found on: http://www.cs.albany.edu/~patrey/ICSI526-426/assignments/ass3/ImageHidingCode.zip

Modify this code or write your own fresh code to hide a text document (.TXT file) into an image. The modified GUI must show the host image in the left panel and the text in the right panel (right panel is optional though). The hiding would be performed by replacing the n lower order bits of image with the ASCII values of the m number of characters from the text document. Obviously, the more the text you embed into the image, the lesser the quality of the image would be. The GUI must also show the value of n and m, where n can vary from 0 to 8 and m can be any value between 0 and the maximum number of characters that can be embedded in the image.

The host image and text document that needs to be embedded can be found on:
http://www.cs.albany.edu/~patrey/ICSI526-426/assignments/ass3/hostimage.JPG and
http://www.cs.albany.edu/~patrey/ICSI526-426/assignments/ass3/text.txt

Devise your own strategy for this embedding and present your analysis and observations on how much of the text document you can embed into the image so that its quality is not perceptually degraded.

Submission

You must submit the following via UAlbany Blackboard:
1) Source code along with the instructions to run it.
2) A pdf file containing your analysis and observations.
3) A video (of max 5 min) that shows the working of your program.

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