



UNIVERSITY AT ALBANY

State University of New York

DEPARTMENT OF COMPUTER SCIENCE

ICSI-526/426 Cryptography – Spring 2017

Assignment 1

Due date: February 21, 2017, 11:59 p.m.

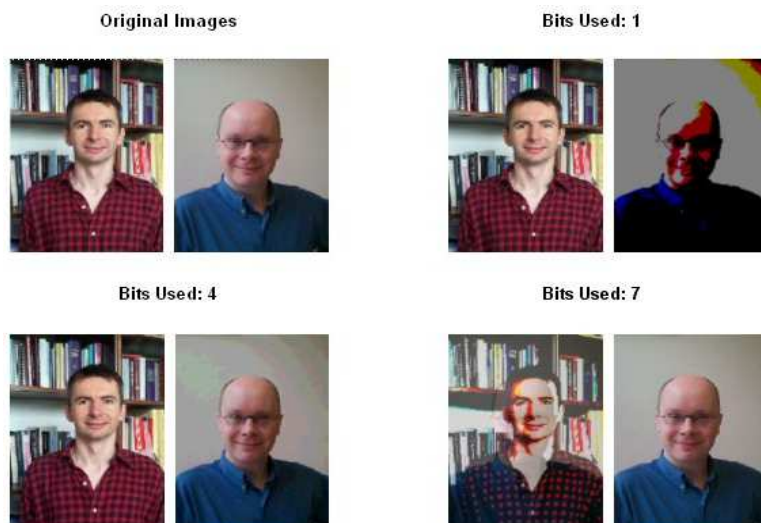
Total marks: 10

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/ass1/ImageHidingCode.zip>

Modify this code or write your own fresh code to hide an audio file (e.g. .wav file) into an image. You are required to do the following:

- Show the host image in the left panel as it is displayed in the above GUI.
- Devise your own strategy for embedding. There could be two strategies: i) embed the audio file in full length; in this case, the quality of audio that is embedded would be degraded, and ii) embed the audio file in partial length; in this case, the quality of the audio part that is embedded wouldn't be effected. You are required to use both strategies.

- c) Add a radio button to choose between the above two strategies.
- d) For Strategy 1, add a button in the right panel to reconstruct the extracted audio file so that it can be played using an audio player.
- e) For Strategy 2, add a text area in the right panel to show the length of the audio (in minutes and seconds) that has been embedded.

The host image and text document that needs to be embedded can be found on:

http://www.cs.albany.edu/~patrey/ICSI526-426/assignments/ass1/Host_Image.bmp and
http://www.cs.albany.edu/~patrey/ICSI526-426/assignments/ass1/president_speech.wav

Present your analysis and observations from the assignment.

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.