

## Lab 5: Steganography: the Hunt for Hela's Treasures

**Due: 10/20/09 by 11:59PM**

Steganography is the science (and art) of transmitting secret messages within another visible message such that the existence of the hidden message is known to only the sender and receiver. An interceptor of the visible message should not be aware that there is a hidden message within.

**Objectives** - to:

1. gain an understanding of the nature of steganography
2. investigate and familiarize yourself with some steganographic tools

**Prelab Activities:**

1. log in to your vm.
2. download the free edition of these 2 free programs on your vm:  
[Invisible Secrets](http://www.invisiblesecrets.com/ver2/index.html) <http://www.invisiblesecrets.com/ver2/index.html> (the free edition)  
[InvisibleInk](http://www.fileheap.com/download-invisibleink-35596.html): <http://www.fileheap.com/download-invisibleink-35596.html> (the free edition)
3. from my website (Lab 5 Steganography), download the two images '415nh' and '415b' on your vm desktop – use the same names respectively.

**Lab**

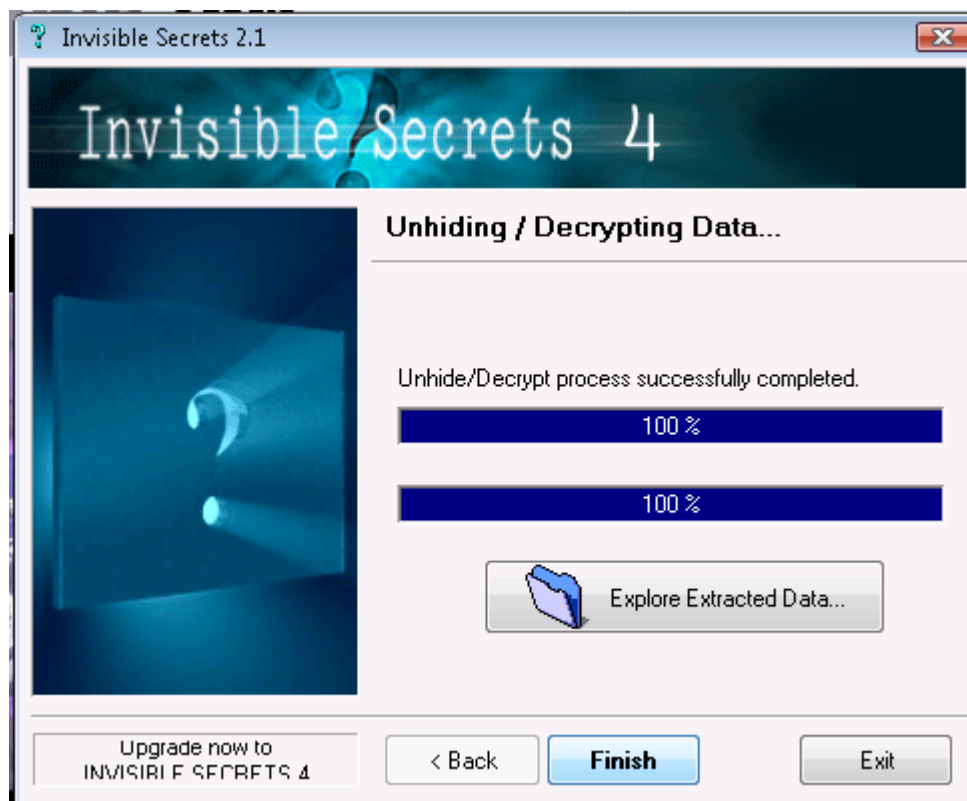
1. Open the Invisible Secrets program.



2. Check the 'Extract and/or Decrypt files from a carrier files' button.

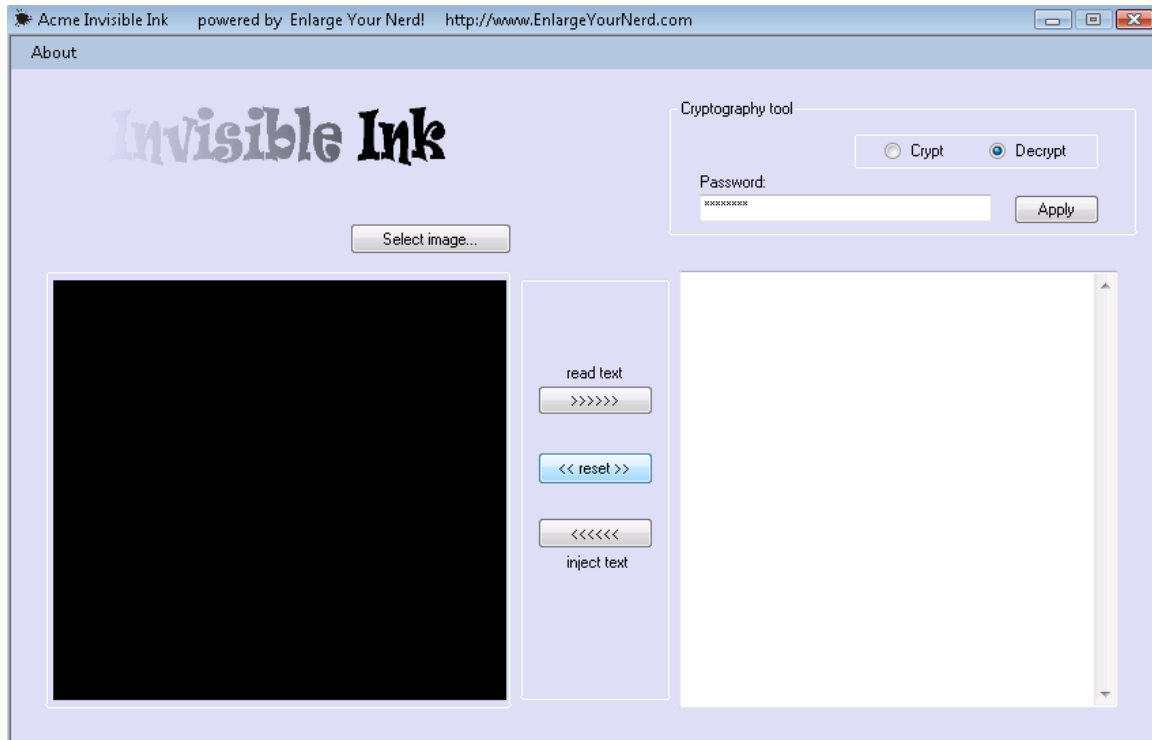


3. Choose '415nh' as the carrier file from which to extract and decrypt 'hidden' data.
4. The password is 'what' and the encryption/decryption algorithm is 'Blowfish.'



5. Explore extracted data – view the hidden file and make note of the message.

- Open the Invisible Ink program, select '415b' as the image within which there is a hidden message/ text. Fill in the password and be sure to check the 'Decrypt' button. (Data was encrypted with the Rijndael algorithm using a 256 byte key.



- Take note of the hidden text – this is the location where Hela hid millions of dollars of treasure in the mid 1980s.
- Using a mapping program like google maps or mapquest, map the general location (from number 7). Copy and save the print screen shot as a bitmap or jpeg (use a program like Paint). This will be your carrier image.
- From the Internet (or elsewhere) find an image of what you imagine Hela's treasure's to look like – save this image (please ensure this is a decent image of which your grandmother, mother, and I would approve 😊). This will be your hidden image.
- Using Invisible Secrets, email me your hidden image of Hela's treasures within the carrier image (this is very easy to do, using a click of a button, so be sure to familiarize yourself with this program). Your password should be '415'.