

8505 Assignment 2 - Testing

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Test Cases

CLI

GUI

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Test Cases

CLI

Test	Inputs	Results
Too Large of an Input File	<code>./bin/8505-ass2 -i puppy.bmp -o test.bmp -b -f puppy.jpg -e -p TestingPassword</code>	<pre>[14:19:38]john@John-Desktop:8505-ass2\$./bin/8505-ass2 -i puppy.bmp -o test.bmp -b -f puppy.jpg -e -p TestingPassword Message too big for carrier image</pre>
Missing output file on encryption	<code>./bin/8505-ass2 -i test.bmp -d -p TestingPassword</code>	<pre>[14:21:51]john@John-Desktop:8505-ass2\$./bin/8505-ass2 -i test.bmp -d -p TestingPassword Usage options: [i]nput - The input carrier file [o]utput - The output carrier file [f]ile - The data input/output file [e]ncrypt - Encrypt mode [d]ecrypt - Decrypt mode [p]assword - The encryption password [a]es - Encrypt using AES-GCM instead of ChaCha20-Poly1305 [b]mp - Write out a BMP file instead of a PNG file [s]etting - The bit number of each channel that will be modified (0-7, with 0 being LSB) [h]elp - This message Input, file, mode, and password are required arguments Output file is required in encryption mode only</pre>
Mismatched encryption algorithms	<code>./bin/8505-ass2 -i test.bmp -d -p TestingPassword -f output.txt -a</code>	<pre>[14:24:20]john@John-Desktop:8505-ass2\$./bin/8505-ass2 -i test.bmp -d -p TestingPassword -f output.txt -a Bad decrypt</pre>
Mismatched bit settings	<code>./bin/8505-ass2 -i test.bmp -d -p TestingPassword -f output.txt -s 3</code>	<pre>[14:41:03]john@John-Desktop:8505-ass2\$./bin/8505-ass2 -i test.bmp -d -p TestingPassword -f output.txt -s 3 [14:41:12]john@John-Desktop:8505-ass2\$</pre>
Use text file as carrier	<code>./bin/8505-ass2 -i LICENSE -f .gitignore -o test.txt -p TestingPassword -e</code>	<pre>[14:41:40]john@John-Desktop:8505-ass2\$./bin/8505-ass2 -i LICENSE -f .gitignore -o test.txt -p TestingPassword -e Failed to open image</pre>
Decrypt image with no embedded data	<code>./bin/8505-ass2 -i puppy.bmp -f output.txt -d -p TestingPassword</code>	<pre>[14:45:30]john@John-Desktop:8505-ass2\$./bin/8505-ass2 -i puppy.bmp -f output.txt -d -p TestingPassword [14:45:44]john@John-Desktop:8505-ass2\$</pre>
Decrypt with wrong password	<code>./bin/8505-ass2 -i test.png -f output.txt -d -p TestingPasswor</code>	<pre>[14:47:49]john@John-Desktop:8505-ass2\$./bin/8505-ass2 -i test.png -f output.txt -d -p TestingPasswor Bad decrypt</pre>

Invalid bit setting	<code>./bin/8505-ass2 -i cat.png -f LICENSE -o test.png -e -p TestingPassword -s x</code>	<pre>[14:49:04]john@John-Desktop:8505-ass2\$./bin/8505-ass2 -i cat.png -f LICENSE -o test.png -e -p TestingPassword -s x Usage options: [i]nput - The input carrier file [o]utput - The output carrier file [f]ile - The data input/output file [e]ncrypt - Encrypt mode [d]ecrypt - Decrypt mode [p]assword - The encryption password [a]es - Encrypt using AES-GCM instead of ChaCha20-Poly1305 [b]mp - Write out a BMP file instead of a PNG file [s]etting - The bit number of each channel that will be modified (0-7, with 0 being LSB) [h]elp - This message Input, file, mode, and password are required arguments Output file is required in encryption mode only</pre>
Invalid data file	<code>./bin/8505-ass2 -i cat.png -f . -o test.png -e -p TestingPassword</code>	<pre>[14:49:10]john@John-Desktop:8505-ass2\$./bin/8505-ass2 -i cat.png -f . -o test.png -e -p TestingPassword -s x Usage options: [i]nput - The input carrier file [o]utput - The output carrier file [f]ile - The data input/output file [e]ncrypt - Encrypt mode [d]ecrypt - Decrypt mode [p]assword - The encryption password [a]es - Encrypt using AES-GCM instead of ChaCha20-Poly1305 [b]mp - Write out a BMP file instead of a PNG file [s]etting - The bit number of each channel that will be modified (0-7, with 0 being LSB) [h]elp - This message Input, file, mode, and password are required arguments Output file is required in encryption mode only</pre>
Missing output file on decryption	<code>./bin/8505-ass2 -i test.bmp -d -p TestingPassword</code>	<pre>[14:49:37]john@John-Desktop:8505-ass2\$./bin/8505-ass2 -i test.bmp -d -p TestingPassword Usage options: [i]nput - The input carrier file [o]utput - The output carrier file [f]ile - The data input/output file [e]ncrypt - Encrypt mode [d]ecrypt - Decrypt mode [p]assword - The encryption password [a]es - Encrypt using AES-GCM instead of ChaCha20-Poly1305 [b]mp - Write out a BMP file instead of a PNG file [s]etting - The bit number of each channel that will be modified (0-7, with 0 being LSB) [h]elp - This message Input, file, mode, and password are required arguments Output file is required in encryption mode only</pre>

GUI


Test	Input	Result
Nothing Selected Encrypt	Click Encrypt	

Nothing Selected Decrypt	Click Decrypt	<div><div>Preview</div><div>No Image Selected</div><div>Select File</div><div>Carrier:</div><div>Select File</div><div>Input:</div><div>Select File</div><div>Output:</div><div>Tool</div><div>Messages</div><div>Clear</div><div>Select Bin</div><div>Encrypt</div><div>Decrypt</div><div>please select files before attempting decrypting</div><div>Encryption</div><div>Algorithm:</div><div><input checked="" type="radio"/> ChaCha20-Poly1305</div><div><input type="radio"/> AES-GCM</div><div>Password:</div><div>Bit Position:</div><div><input checked="" type="radio"/> 0</div><div><input type="radio"/> 1</div><div><input type="radio"/> 2</div><div><input type="radio"/> 3</div><div><input type="radio"/> 4</div><div><input type="radio"/> 5</div><div><input type="radio"/> 6</div><div><input type="radio"/> 7</div></div>
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Multiple Options

- Select a Carrier File
- Select an Input File
- Select an Output File
- Select AES
- Select Bit position 4
- Select Bin
- Click Encrypt

Preview



Select File

Carrier: /home/isaac/Downloads/may_upscale.png

Select File

Input: /home/isaac/code/8505-ass2/LICENSE

Select File

Output: /home/isaac/test.png

Tool

Messages

Clear

Select Bin

Encrypt

Decrypt

Carrier File Opened: /home/isaac/Downloads/may_upscale.png
Input File Opened: /home/isaac/code/8505-ass2/LICENSE
Output File Opened: /home/isaac/test.png
Tool Selected: /home/isaac/code/8505-ass2/bin/8505-ass2
running: /home/isaac/code/8505-ass2/bin/8505-ass2 -i /home/isaac/Downloads/may_upscale.png -o /home/isaac/test.png -f /home/isaac/code/8505-ass2/LICENSE -p testing -e -s 4 -a
finished

Encryption

Algorithm:

☐ ChaCha20-Poly1305

☒ AES-GCM

Password:

testing

Bit Position:

☐ 0

☐ 1

☐ 2

☐ 3

☒ 4

☐ 5

☐ 6

☐ 7