

# Recognizing the Use of Steganography in Forensic Evidence (4e)

Digital Forensics, Investigation, and Response, Fourth Edition - Lab 02

Student:

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Time on Task:

1 hour, 11 minutes

Progress:

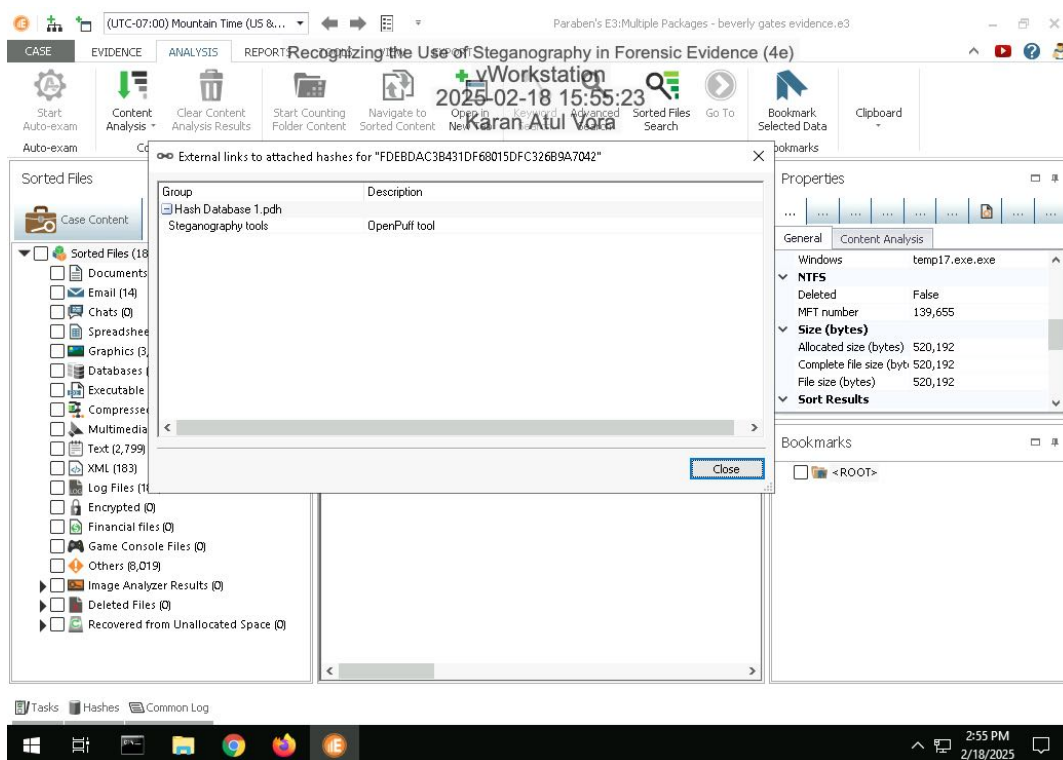
100%

Report Generated: Monday, February 24, 2025 at 4:32 PM

## Section 1: Hands-On Demonstration

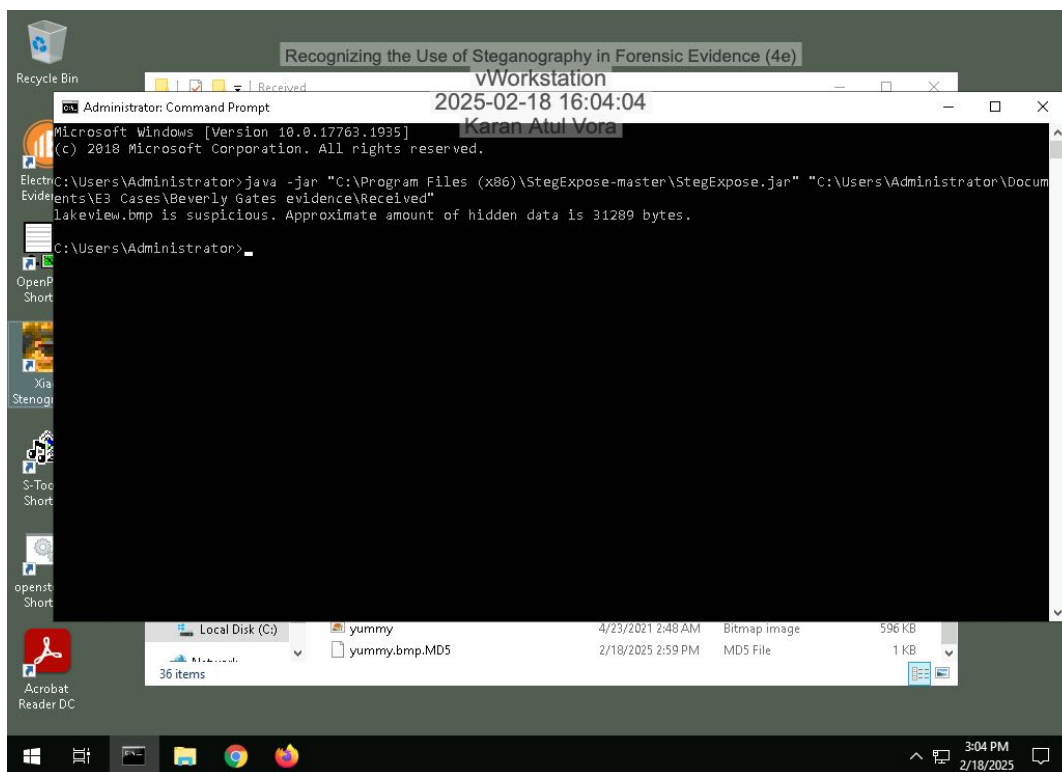
### Part 1: Detect Steganography Software on a Drive Image

14. Make a screen capture showing the search result and its description.

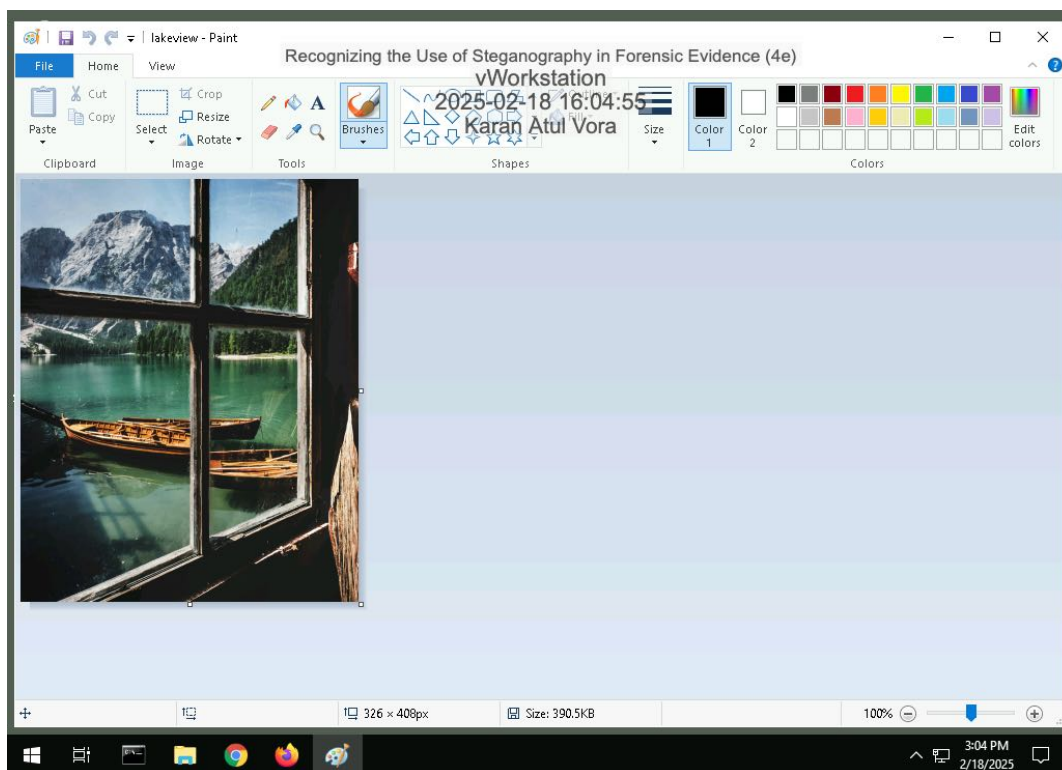


### Part 2: Detect Hidden Data in Image Files

### 10. Make a screen capture showing the StegExpose results.



### 13. Make a screen capture showing the suspicious file in Microsoft Paint.

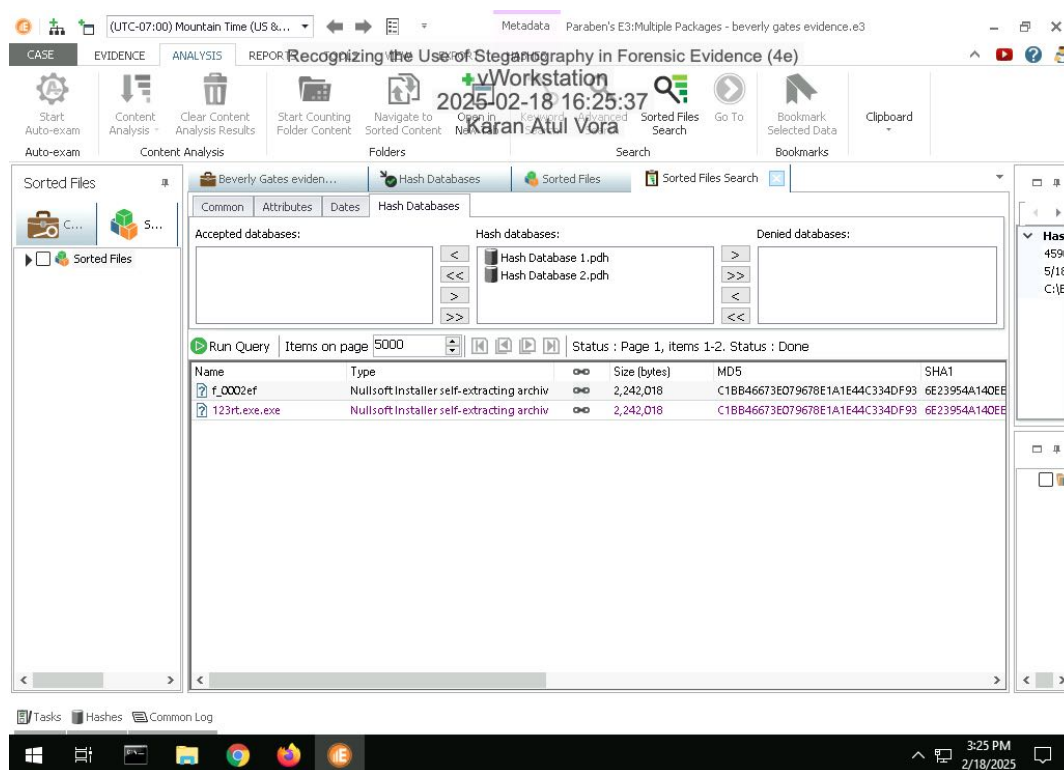




### Section 2: Applied Learning

#### Part 1: Detect Steganography Software on a Drive Image

5. Make a screen capture showing the search result and its description.



#### Part 2: Detect Hidden Data in Image and Audio Files

4. Identify the image file with concealed data according to the StegExpose steganalysis tool.

dB9olser.gif

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## 7. Make a screen capture showing the WAV file sizes and hash values in E3.

Workstation  
2025-02-18 16:34:23  
Karan Atul Vora

Paraben's E3: Multiple Packages - beverly gates evidence.e3

Recognizing the Use of Steganography in Forensic Evidence (4e)

Start Auto-exam Content Analysis Clear Content Analysis Results Start Counting Folder Content Navigate to Sorted Content Open in New Window Advanced Sorted Files Search Go To Bookmark Selected Data Clipboard Bookmarks

Sorted Files

Internal Path: [33://Sorted Files/Multimedia](#)

Run Query Items on page 5000 Status: Page 1, items 1-400. Status: Done

| Name                       | Type                          | Size (bytes) | MD5                             | SHA1            |
|----------------------------|-------------------------------|--------------|---------------------------------|-----------------|
| calls_they_left_call_v2.mp | Audio file with ID3 version 2 | 9,656        | 45185BEC5BAF262238256A07A809757 | 63413C0E093E40B |
| calls_you_joined_call_v2   | Audio file with ID3 version 2 | 11,954       | AD7FD074DC7E6792385B50BB7D0C2   | D99C460740059D1 |
| calls_you_left_call_v2.mp  | Audio file with ID3 version 2 | 11,954       | 7994BFA4C066A9EE4A05475F6351DD  | ED8BF30C2E997F  |
| complete_quest_require     | Audio file with ID3 version 2 | 30,578       | BF1D81A7A40C6D95F70854AD198FC5  | 7C68E4883E4299C |
| confirm_delivery.mp3       | Audio file with ID3 version 2 | 20,695       | CC98DF71D6B8F82ED163602C1018CB  | 6633F3C876423BC |
| flitterbug.mp3             | Audio file with ID3 version 2 | 44,462       | 7D3DB0143C9CD1603761CB78413A3F  | 530D0CD87E7AB5  |
| here_you_go_lighter.mp3    | Audio file with ID3 version 2 | 17,157       | 3C1F056325C23624546315FDC12D12  | B8E14932113A24  |
| hi_flowers_hit.mp3         | Audio file with ID3 version 2 | 23,878       | A440D5B72D5C115B8ED679418E9721  | 40EB97338F35AA  |
| hummus.mp3                 | Audio file with ID3 version 2 | 13,270       | 200E354C96D59D1F42339A64167158C | 32D0548D6D40DB  |
| item_pickup.mp3            | Audio file with ID3 version 2 | 12,455       | 9EAC57F227789B7ED69695820DE633  | F7C700F0126F41E |
| knock_brush.mp3            | Audio file with ID3 version 2 | 15,067       | BD6E16226815AC656FE37A4B27391B  | B5CAA1BB1369B6  |
| save_and_checkout.mp3      | Audio file with ID3 version 2 | 37,400       | 1F16C1A6C079921C2D291F2828C457  | 25C2EFB52634AA  |
| MANIFEST-000002            | MPEG-4 LOAS                   | 50           | 22BF0E81636B1B45051B138F48B3D14 | 56755D203579AB  |
| f_000010                   | WebM video file               | 44,960       | 0BD0C0497EB3A19E66F2B1E3D574163 | A8310529937CA2F |
| f_000022                   | Audio file with ID3 version 2 | 19,688       | AETD16BB2EEA76B9B9977D80FAD666  | 4C058E3962A5978 |
| f_000027                   | Audio file with ID3 version 2 | 17,922       | D0920C06A01E5BB8B09678581E29D5  | AAAAA71151F555  |
| motorcycle_x.wav           | Microsoft WAVE format         | 53,247       | 47A41CF04BC9F205D076A5868499C8  | 8726CEB1F1D05A  |
| motorcycle_x1.wav          | Microsoft WAVE format         | 53,248       | F93E97801820B0719A3C7BBE8407421 | 83DACAC825CB89  |
| laugh_x.wav                | Microsoft WAVE format         | 14,204       | 35D2A83D90A91FB8BF70B256B78B39D | A8FEA8AADE01FO  |
| laugh_x1.wav               | Microsoft WAVE format         | 14,205       | 5D5286FEA9F45946A15F966FDEQA5ED | 6DCDC04E42345B  |

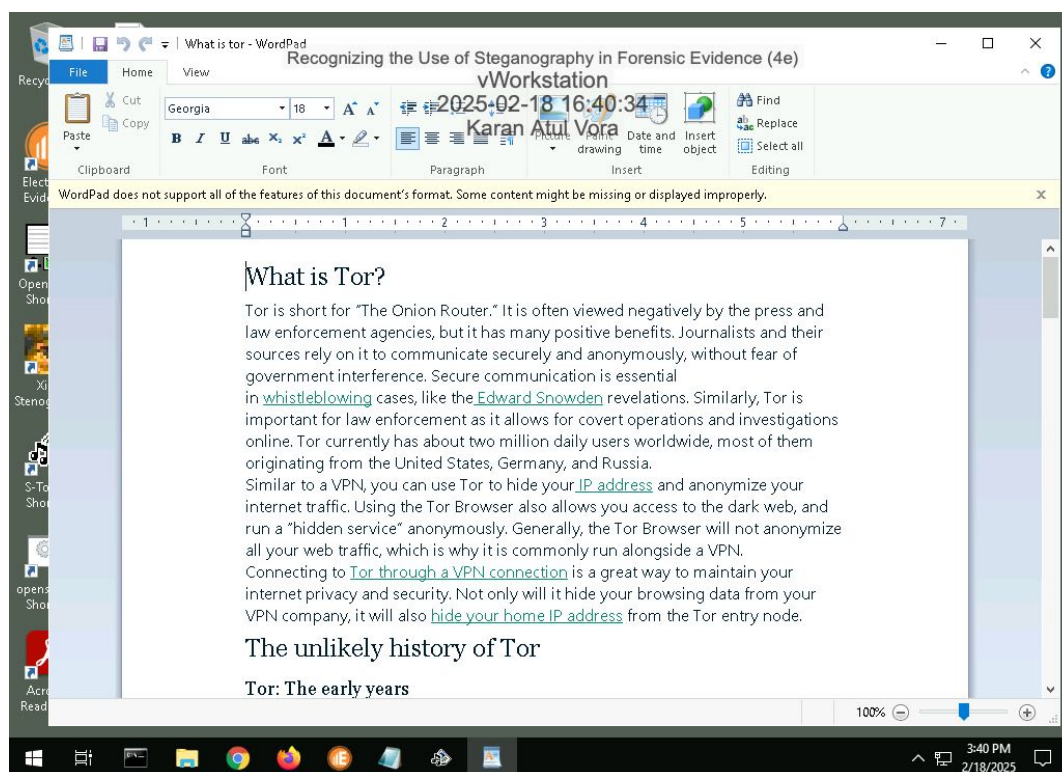
Tasks Hashes Common Log

3:34 PM  
2/18/2025

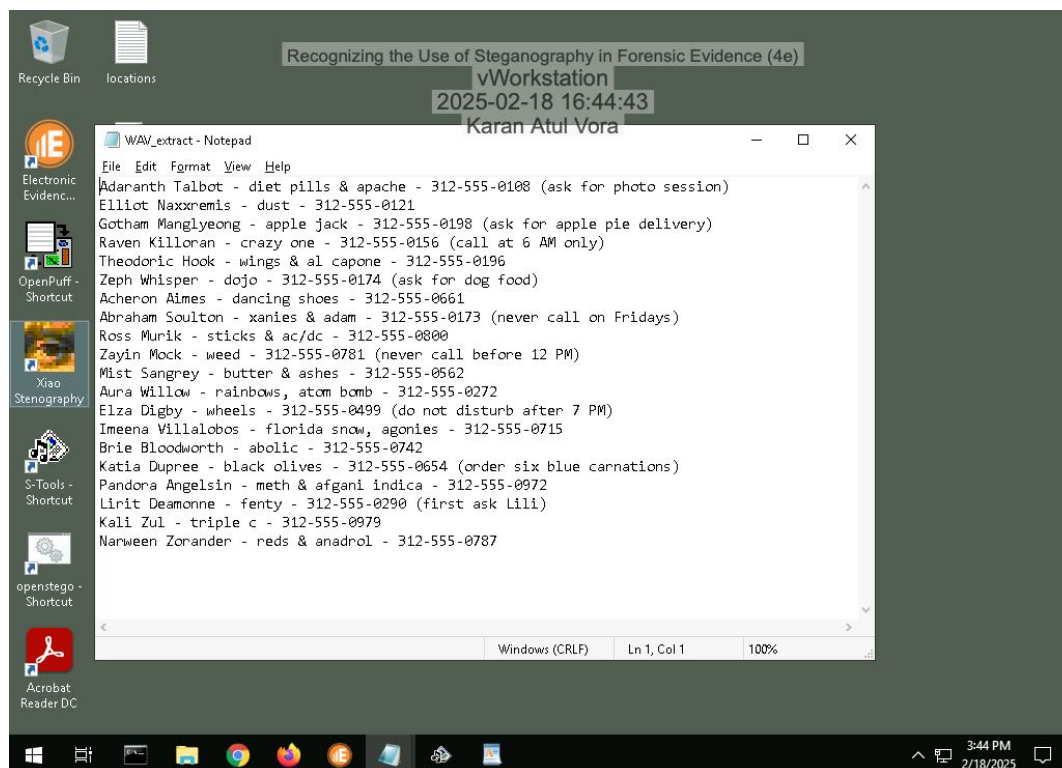
## Part 3: Extract Hidden Data from Image and Audio Files



### 9. Make a screen capture showing the contents of the hidden file extracted by S-Tools.



### 15. Make a screen capture showing the contents of the hidden file extracted by Xiao.



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16. **Describe** the contents of the two hidden files. How might they be relevant to the current investigation?

The two hidden files provide the data on how anonymously the suspect would have communicated and the contact details of when to contact for what at what time.

## Section 3: Challenge and Analysis

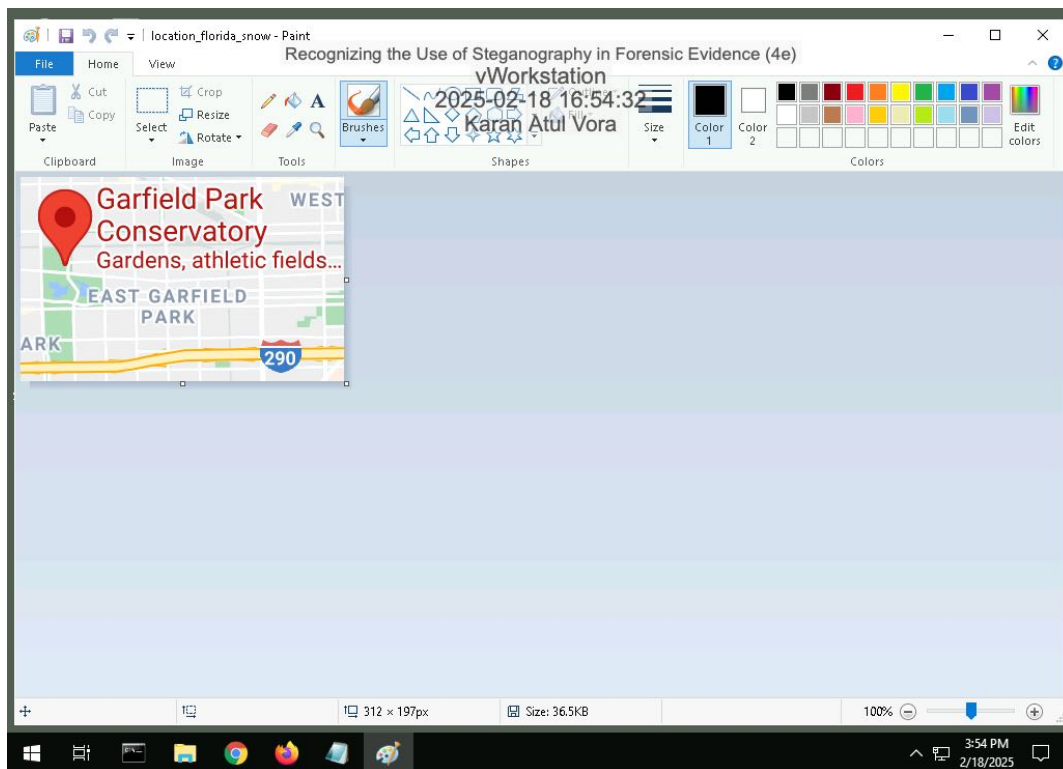
### Part 1: Detect More Hidden Data

**Record** the names of the files that contain concealed data.

chicago.bmp, chicago1.bmp

### Part 2: Extract More Hidden Data

**Make a screen capture** showing the **first file extracted by OpenStego**.





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**Make a screen capture showing the second file extracted by OpenStego.**

