Lab 2

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Summary Report

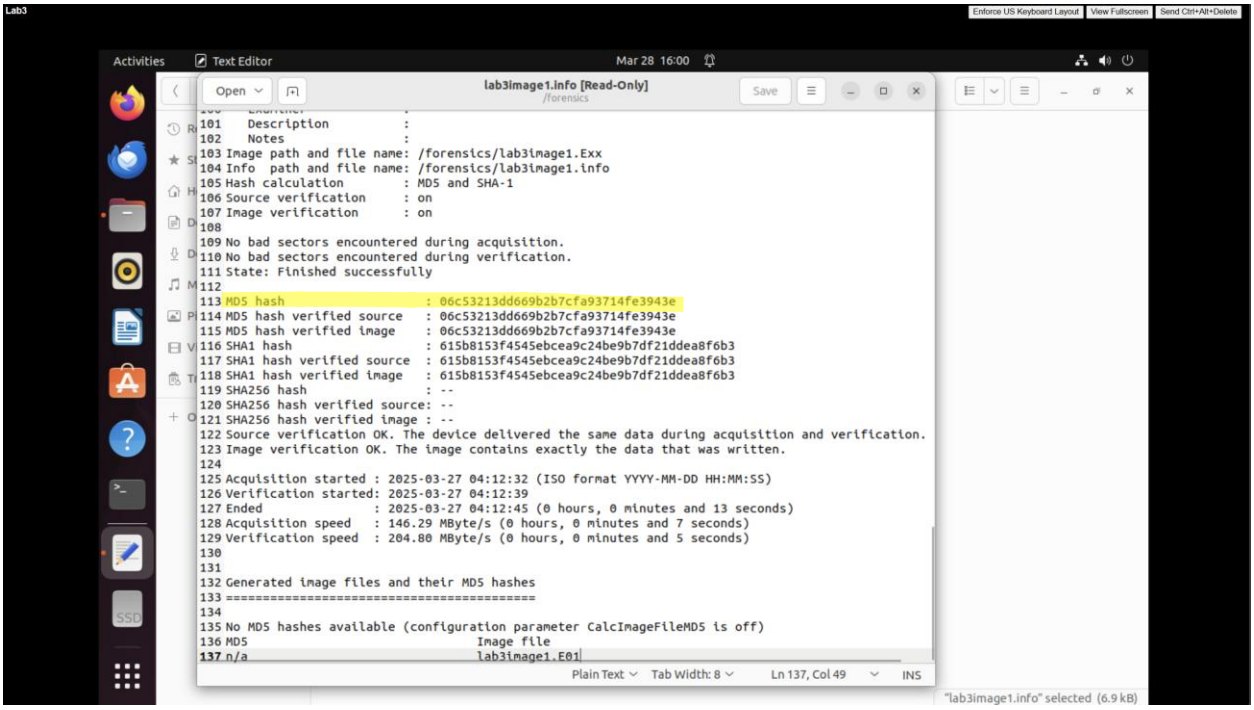
So basically, first and foremost the most crucial step in any digital forensic is to make a duplicate of the original data or disk on which the investigation is going on and then working on the duplicate copy of that disk. We do this to prevent any data lose or deletion from the original data or mess up the integrity of that original file which can also hamper the overall investigation. So, I used “Guymager” to make an image of that disk and then work or analyze that duplicate disk. Then we use a software known as “Autopsy” to analyze or investigate anything inside that disk. So, we make a new case with your name and your organization and select the copy image of the disk you shared with me to analyze it. After sometime, the Autopsy software will scan it completely for the options we selected it to detect and find in that disk like some type of deleted files or certain types of files, etc. So, on opening your primary disk, we get to see a lot of folders inside the disk like Desktop, Documents, Downloads, Music, Pictures, topo. We can also observe that there are two image files at the start, bearcat.png and NotanImage.svg which are two bearcat image I got to see. There is also one special folder named “CarvedFiles” which is created by Autopsy software and contains all deleted files inside it which when I open it, I observed two deleted images of bearcats inside it. After that, I accessed Desktop folder and there are 4 different files in which one is “_D.pedeef” which is pdf which contains bearcat image inside it, there is “meeting_notes.eml” which is a file that contains an already typed mail and opens with thunderbird mail which also contains bearcat image inside it and that desktop folder also has “macwd.E01” which is other MacOS Hard drive in which Bob accidentally deleted some of the flower photos which he needs back. Then we open Documents folder we get two files, one is “.hidden.jpeg” which is a bearcat image and “week1.odp” which is a presentation file that also contains a bearcat image inside it. Then we access Downloads folder to get two more files, “ahhhhhhh” which is a bearcat image and also have “cute.tar.xz” that is a zip file which when extract, we get a bearcat image inside it. Then after that, I opened Music folder to get “Tutorial.mp4” file which is also a bearcat image.

Now, after finding all of the bearcat images, we need to find deleted flower images too so for that we need to access “macwd.E01” MacOS hard disk image which is in Desktop folder and then select “Add Data Source” and select that disk image to analyze it for our investigation. Then on opening, we observe space named vol0, vol1, vol3, vol4, vol5, vol6, vol7, vol8, vol9, vol10, vol11 in it. When we open vol3 and vol4, we can observe some flower images which are not deleted by Bob (so they are of no use to report) and also some other photos with them too. After that, when to open vol8, we observe “CarvedFiles” similar from primary hard drive which also contains all deleted files in it which also contains deleted flower photos which are essential for our investigation. So, on opening that folder, we get to see 7 different files in which f0007454.gif, f0002628.bmp, f0000575.jpg and f0009688.png which contains deleted flower images in it. Files such as f0007454.gif, f0002628.bmp and f0009688.png seems like same photos but are different which can be noted by observing hash value of those 3 images (different hash value means different images). In additional, there is a file named “f0007714.pcx” which can only be opened by certain programs that are not installed in my VMware but it’s for sure a flower’s image.

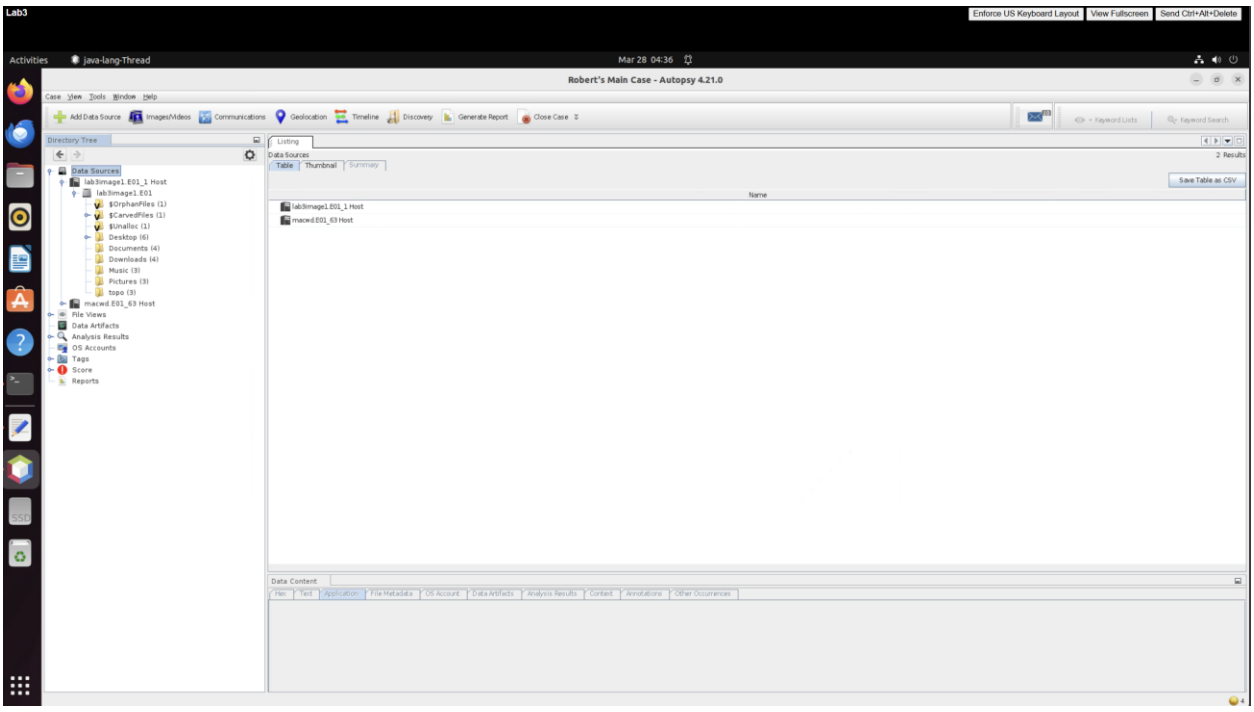
Hence, in total a found out 11 bearcats and 5 deleted flower photos in that drive which is essential for Robert (Bob) who is company’s president.

Appendix

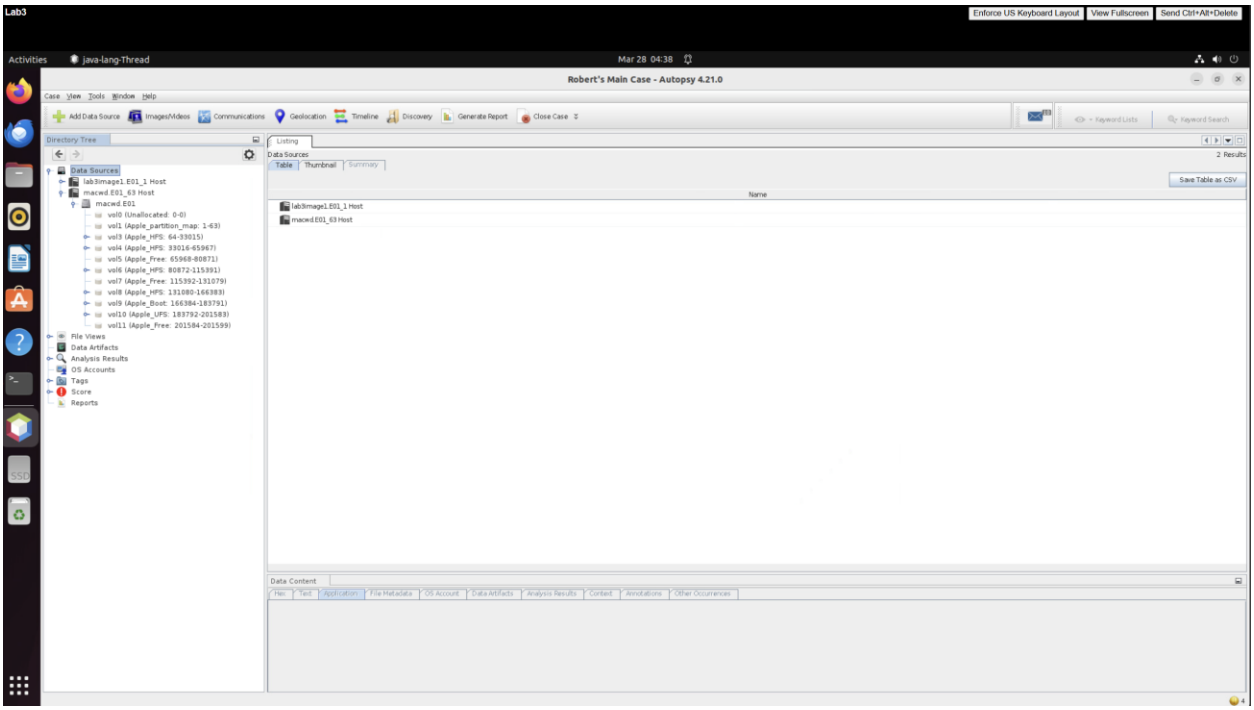
1. MD5 hash value of the drive we imaged is 06c53213dd669b2b7cfa93714fe3943e as highlighted below.



2. **For Primary Hard Drive-**



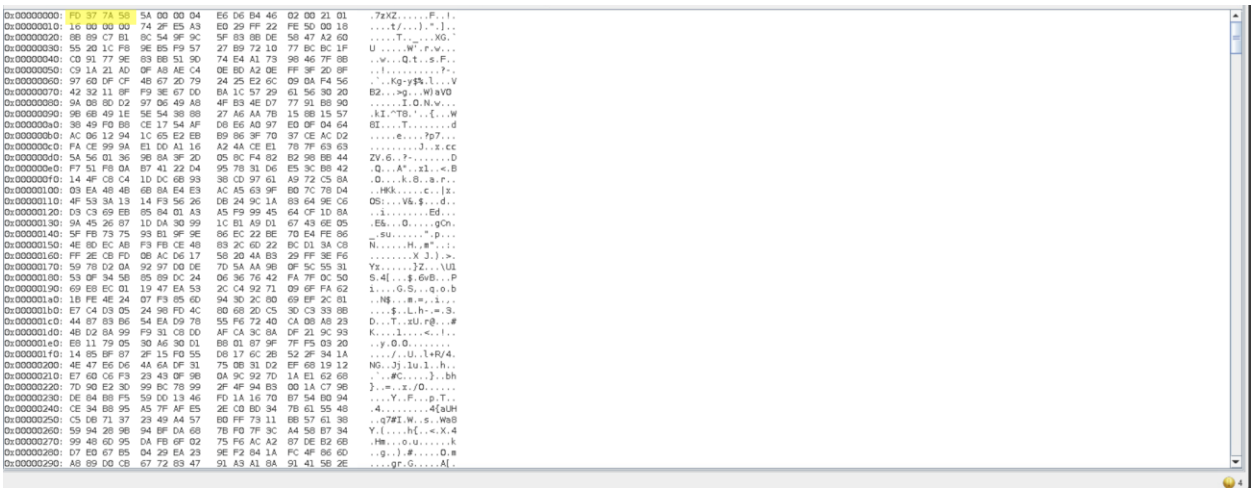
- **For MacOS Hard Drive-**



3.

- **Bearcat Image 1-**

Name:	/img_lab3image1.E01/Downloads/Cute.tar.xz
Type:	File System
MIME Type:	application/x-xz

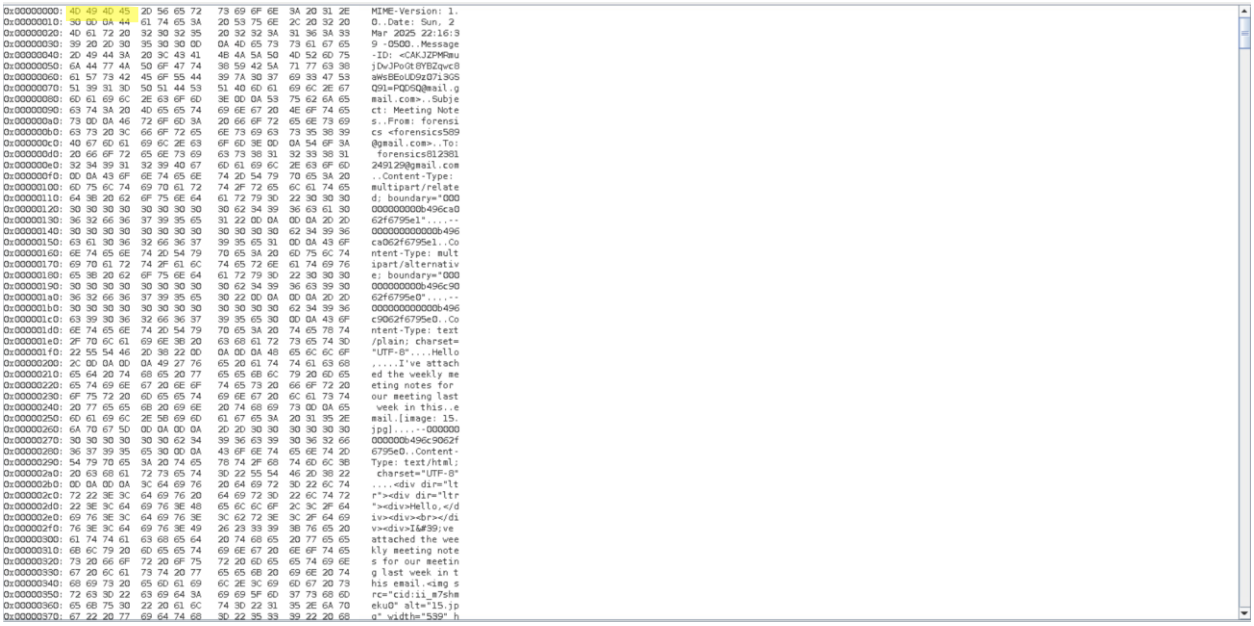


MD5:	f6f2338547f7951b6319474e71a7775e
Modified:	2025-03-02 22:01:16 EST

This specific image is hidden a zip file called “Cute.tar” and we have to extract the image from inside it to access it.

- **<u>Bearcat Image 2-</u>**

Name:	/img_lab3image1.E01/Desktop/meeting_notes.eml
Type:	File System
MIME Type:	multipart/related



MD5:	232bd5ae28471f54e7efac7d5762df78
Modified:	2025-03-02 22:16:56 EST

This is meeting_notes.eml file which we opened with thunderbird mail, we can see a already typed mail and a picture of bearcat attached to that mail.

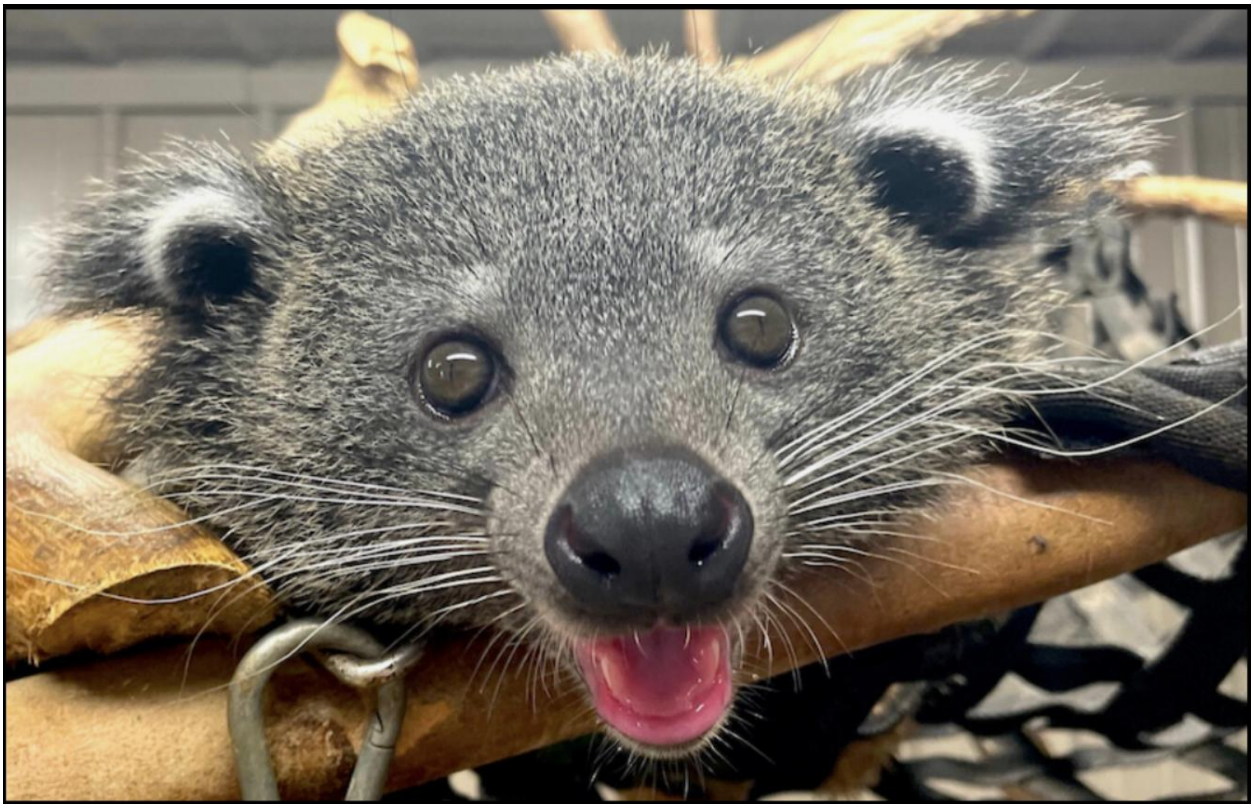
- **Bearcat Image 3-**

Name:	/img_lab3image1.E01/Downloads/ahhhhhhh
Type:	File System
MIME Type:	image/jpeg

```
0x00000000: FF D8 FF E0  00 10 4A 46  49 46 00 01  02 00 00 64   ......JFIF.....d
0x00000010: 00 64 00 00  FF EC 00 11  44 75 63 6B  79 00 01 00   .d......Ducky...
0x00000020: 04 00 00 00  28 00 00 FF  EE 00 0E 41  64 6F 62 65   ....(......Adobe
0x00000030: 00 64 C0 00  00 00 01 FF  DB 00 84 00  0C 08 08 08   .d..............
0x00000040: 09 08 0C 09  09 0C 11 0B  0A 0B 11 15  0F 0C 0C 0F   ................
0x00000050: 15 18 13 13  15 13 13 18  17 12 14 14  14 14 12 17   ................
0x00000060: 17 1B 1C 1E  1C 1B 17 24  24 27 27 24  24 35 33 33   .......$$''$$533
0x00000070: 33 35 3E 3B  3B 3B 3B 3B  3B 3B 3B 3B  01 0D 0B 0B   35;;;;;;;;;;....
0x00000080: 0D 0E 0D 10  0E 0E 10 14  0E 0F 0E 14  14 10 11 11   ................
0x00000090: 10 14 1D 14  14 15 14 14  1D 25 1A 17  17 17 17 1A   .........%......
0x000000a0: 25 20 23 1E  1E 1E 23 20  20 20 25 25  20 28 32 32   % #...# (((%%((22
0x000000b0: 30 32 32 3B  3B 3B 3B 3B  3B 3B 3B 3B  3B FF C0 00   022;;;;;;;;;;...
0x000000c0: 11 08 02 21  03 20 03 01  22 00 02 11  01 03 11 01   ...!. .."....... 
0x000000d0: FF C4 00 AF  00 00 02 03  01 01 01 01  00 00 00 00   ................
0x000000e0: 00 00 00 00  00 04 05 02  03 06 01 00  07 08 01 00   ................
0x000000f0: 03 01 01 01  01 00 00 00  00 00 00 00  00 00 00 00   ................
0x00000100: 01 02 03 04  05 06 10 00  02 01 03 02  05 02 03 06   ................
0x00000110: 04 03 06 03  06 03 09 01  02 03 00 11  04 21 12 31   .............!.1
0x00000120: 41 22 13 05  51 61 71 81  32 91 42 52  23 14 06 A1   A"..Qaq.2.BR#...
0x00000130: B1 62 33 C1  D1 72 F0 E1  82 43 24 15  92 B2 34 F1   .b3..r...C$...4.
0x00000140: C2 53 73 B3  35 A2 83 16  07 D2 63 C3  44 74 25 36   .Ss.5.....c.Dt%6
0x00000150: A3 11 00 D2  02 01 04 01  03 04 03 01  .............
0x00000160: 00 00 00 01  11 02 21 31  41 12 03 51  61 71 22 81   ......!1A..Qaq".
0x00000170: 91 32 04 A1  13 B1 D1 E1  42 C1 52 33  14 F0 F1 62   .2......B.R3...b
0x00000180: 72 FF DA 00  0C 03 01 00  02 11 03 11  00 3F 00 9A   r............?..
0x00000190: 42 00 67 D9  22 76 D8 11  B4 16 47 20  EB 7F 4A F6   B.g."v....G ..J.
0x000001a0: 25 A5 97 80  0A DF 59 53  AD 87 A7 DB  DA A4 3B 7B   %.....YS......;{
0x000001b0: 11 BE A2 DF  DB 55 06 C3  E3 6A 86 C5  DC 8E 58 0D   .....U...j....X.
0x000001c0: BA 6E B6 DF  E0 A6 B9 BD  51 4D 6E 8B  DE 33 1B ED   .n......QMn..3..
0x000001d0: 60 54 AE BE  9D 27 98 35  D3 26 54 79  4E 43 12 66   `T...'.5.&TyNC.f
0x000001e0: 21 BB 20 68  C5 6E 1C 69  C3 8E ED 6B  D1 29 64 55   !. h.n.i...k.)dU
0x000001f0: 61 66 BB B9  26 F7 52 74  E3 E9 44 C3  15 99 66 66   af..&.Rt..D...ff
0x00000200: DC C1 B7 A7  1E 97 02 C0  53 A3 4C 2A  CE C2 3B 46   ........S.L*..;F
0x00000210: 22 EB 74 42  34 D0 EB C6  C4 EA 38 51  3D EE 16 EB   ".tB4.....8Q0...
0x00000220: 3B 51 86 C2  3A AC B7 BA  9F 85 B4 AA  6D 1C 92 17   ;Q..:.......m...
0x00000230: 53 D1 20 07  66 97 57 E2  78 71 F9 D1  32 A9 78 96   S.(.f.W.xq..2.x.
0x00000240: 58 77 6E D6  B0 A2 12 49  90 0B AF 1F  6A B2 AA 7B   Xwn....I....j..{
0x00000250: 63 C4 AF 13  75 2C 4D 74  3A 06 54 3C  05 FD 2D A5   c...u,Mt:.T<..-.
0x00000260: 4B C8 08 58  C1 39 8C 09  52 C5 88 B0  EE C6 6D AD   K..X.9..R.....m.
0x00000270: 81 5D 6E 3E  9A 87 78 45  1C 13 B2 C6  44 E9 9A C0   .]n>..xE....D...
0x00000280: AD D2 FB 4F  0D 37 2B 1E  14 77 6A 2C  A8 1D 65 44   ...O.7+..wj,..eD
0x00000290: 65 27 72 D9  6C 4F F5 03  EB CF E3 4D  2C 4D EF 94   e'r.lO.....M,@..
0x000002a0: 27 9C 6F 05  D0 32 A4 84  15 3E E7 5B  6B 4D F1 25   '.o..2...>.[kM.%
0x000002b0: 21 31 66 16  31 68 25 7B  FE 3E 9E 1E  D4 A6 58 1F   !1f.1h%{.>....X.
0x000002c0: 1B 21 BD E7  BB 6E D6 37  E0 D8 1E DC  8D 17 D6 4C   .!...n.7.......L
0x000002d0: 69 13 C3 AE  CB 6F 6B 8B  A9 37 E2 D0  E1 53 94 A1   i....ok..7...S..
0x000002e0: EC 66 87 1E  49 32 24 C5  94 46 23 5C  C5 0D B1 24   .f..I2$..F#\...$
0x000002f0: D3 71 5E 62  DC 68 3F 1F  E4 B2 A4 C2  74 31 76 D9   .q^b.h?.....t1v.
0x00000300: 0E D0 E1 AE  AC 0E BD 26  AA F2 88 32  FC 74 79 3B   .......&...2.ty;
0x00000310: 88 9B 18 77  00 51 D6 CA  05 A6 5D 7D  85 C7 C2 AA   ...w.Q....]}....
0x00000320: F1 B1 88 B2  77 F7 D4 B8  F3 C7 BC 08  8B 32 81 F5   ....w........2..
0x00000330: 20 30 E5 7B  F2 AE 5E DA  3A DA 67 0F  EB 73 F6 D1   +0.{..^.:.g..s..
0x00000340: D6 D8 C4 AD  82 3B 99 72  B0 76 90 AA  B1 25 2C C1   .....;.r.v...%,.
0x00000350: 49 43 C1 59  6C DA 8A F4  D8 F0 88 64  13 3C FB 18   IC.Yl......d.<..
0x00000360: DC BC 65 95  80 27 D4 60  D6 8E DC A8  BB E4 60 58   ..e..'.`......`X
0x00000370: 29 23 A5 05  97 DC 9F F2  A4 73 64 C6  B2 4C 31 F1   )#.......sd..L1.
```

MD5:	0dc03092edbadf2f509053644e592b93
Modified:	2025-03-02 23:00:41 EST

- **Bearcat Image 4-**



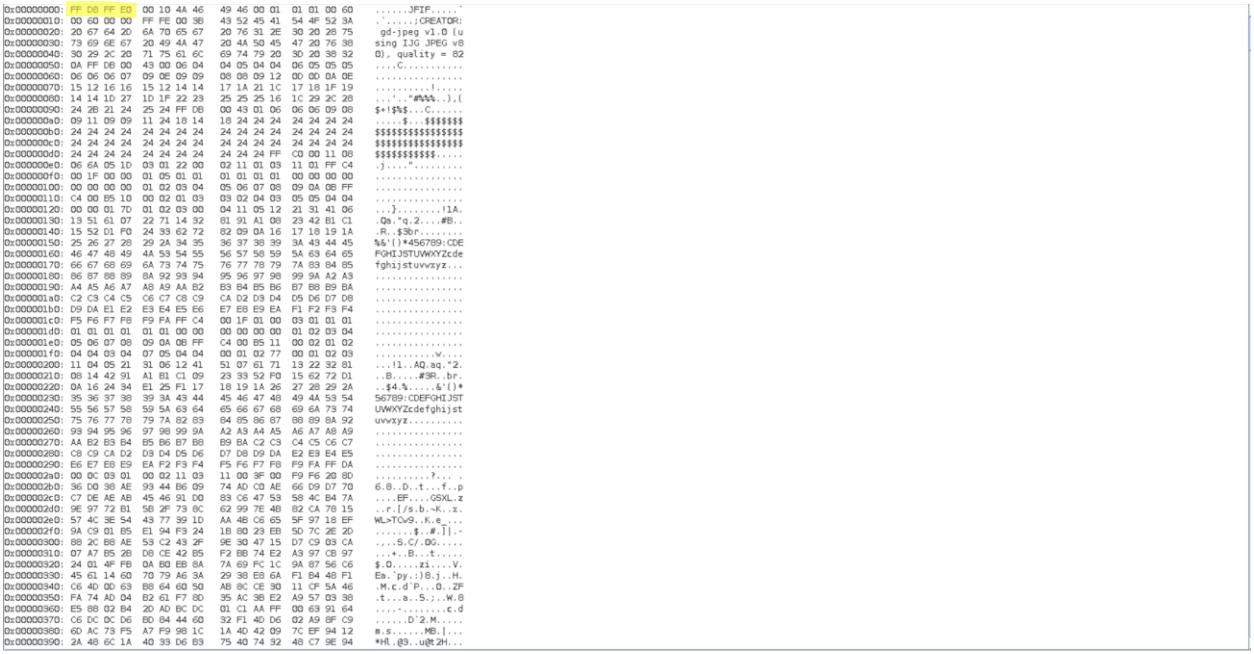
Name:	/img_lab3image1.E01/bearcat.png
Type:	File System
MIME Type:	image/png

```
0x00000000: 89 50 4E 47 0D 0A 1A 0A  00 00 00 0D 49 48 44 52   .PNG........IHDR
0x00000010: 00 00 03 20 00 00 02 16  08 06 00 00 00 AF 24 E9   ... ..........$.
0x00000020: 6C 00 00 20 00 49 44 41  54 78 01 74 BD D7 8E 2C   l.. .IDATx.t...,
0x00000030: C9 96 A6 E7 19 19 29 B7  A8 5D 47 4C 77 93 DD DD   ......)..]GLw...
0x00000040: C1 F7 E3 3D 2F E6 49 07  20 66 40 0C 71 54 C9 2D   ...=/.I. f@.qT.-
0x00000050: 52 0B 7E DF FF DB BA BC  AA 3E E3 99 11 6E 6E B6   R.~......>...nn.
0x00000060: B4 2D 5B 26 DC DC E3 E4  BF FE DF FF D7 2B C7 E6   .-[&.........+..
0x00000070: 67 77 B2 DB B6 93 6D DB  5E F9 7F 7D E1 43 9A EB   gw....m.^..}.C..
0x00000080: DD C9 C9 F6 42 F2 C5 F3  0B F9 2F DB 7E BF 2F CE   ....B...../.~./.
0x00000090: 0E 1C 00 20 E2 78 4D F9  E9 EE 92 32 F2 A5 41 EE   ... .xM....2..A.
0x000000a0: 4E 18 69 F2 77 52 C0 03  8E 7C 4F E4 6B 69 18 B6   N.i.wR...|O.ki..
0x000000b0: 5A 60 F9 6A 1E B4 E1 B0  BD 40 6F F0 8B 27 53 F2   Z`.j.....@o..'S.
0x000000c0: 9F 9F 17 FF 93 C0 9F C0  4F 5E E1 07 8D D3 D7 13   ........O^......
0x000000d0: 64 5D 90 EA F4 FA F2 D4  6B 70 41 88 CC E2 00 19   d]......kpA.....
0x000000e0: 9C 0D F8 13 3E EA AA 6C  A7 94 A9 FF 73 74 24 C1   ....>..l....st$.
0x000000f0: 71 90 E3 45 2E 4A A1 06  E6 B7 4C F9 FC A8 7B D3   q..E.J....L...{.
0x00000100: 2D 53 C5 E2 D6 16 96 BD  40 E3 F4 F4 CD 46 90 29   -S......@....F.)
0x00000110: CC 22 2C FC CB B3 12 A4  A0 3A 26 59 98 34 7B E9   .",.....:&Y.4{.
0x00000120: 7E B0 EF B2 1D 92 ED 76  15 3C F2 AC 3A 6E 3D CA   ~......v.<..:n=.
0x00000130: 00 5E 29 07 86 CB B2 AA  C4 E0 93 94 35 B6 3F 05   .^).........5.?.
0x00000140: D7 7A 50 C9 D1 C1 F4 2B  F2 E7 BA 68 A1 69 CD 87   .zP....+...h.i..
0x00000150: 3A E5 8F D6 0F 84 57 35  4F 89 A6 AF 2E E0 79 68   :.....WSO.....yh
0x00000160: 87 D2 F5 AA B2 99 32 CF  AB F8 61 91 62 57 CB 6A   ......2...a.bW.j
0x00000170: 4F 53 10 01 FF 9F 1F CA  4B 89 FC F8 4B 9D 7D D6   OS......K...K.p.
0x00000180: 9F B8 5A 65 E6 5B E7 C8  00 E8 08 84 47 47 CF BF   ..Ze.[......GG..
0x00000190: 91 ED 04 58 94 09 8C 0C  95 EF 65 17 F9 94 47 2F   ...X......e...G/
0x000001a0: 52 E2 67 3E 7B AA F5 EC  74 DB 2E F8 3A 3F DF F3   R.g>{...t...:?..
0x000001b0: 39 C5 9F 5E B6 E3 FD C9  76 71 7E 1E 1E FB DD 69   9..^....vq~.....i
0x000001c0: 64 7A 7C 7E DA 1E 1E 1F  F9 BC 6C DF BE DD 6D 5F   dz|~......l...m_
0x000001d0: 6F 1F B6 A7 67 64 79 C2  87 80 79 41 3E EB 50 79   o...gdy...yA>.Py
0x000001e0: 9E 9F 95 E1 B4 32 46 37  FD CD BA 46 9F 1D BC 9F   .....2F7...F....
0x000001f0: 1F B6 87 87 07 FC 4A 9E  E7 C8 3F FE A3 1D 91 1D   ......J...?.....
0x00000200: 7F B2 4E DA CE D5 ED FA  BC 02 57 BD B4 8B F6 54   ..N.......W....T
0x00000210: F7 67 CA 51 C2 36 1D 75  17 1F ED A2 0D 05 CB 57   .g.Q.6.u.......W
0x00000220: EB 2A 40 EB 2B ED 6A 95  41 10 3B B5 0D 8B E2 71   .*@.+.j.A.;....q
0x00000230: 72 82 82 D2 31 BF 39 5C  36 D5 F6 37 34 CB D3 FA   r...1.9\6..74...
0x00000240: 6B BE ED 25 8C 03 DF 5A  0B 29 2B 99 43 7B 84 60   k..%...Z.)+.C{.`
0x00000250: 32 F5 9D DA 0D 7E 94 29  17 14 49 36 BF F6 D1 47   2....~.)..I6...G
0x00000260: C9 5D F2 88 2D 4E B8 A0  27 41 21 BE DE 36 5D 3D   .]..-N..'A!..6]=
0x00000270: EA 2F DA AA 3A D4 BE 22  3E 6D 17 FB 6D FB 78 71   ./..:.."><m..m.xq
0x00000280: B6 7D B8 3C DD 3E 5D 5F  6C E7 B0 BB BE 3A DD DE   .}.<.>]_l....:..
0x00000290: 5D ED B6 EB CB 33 9E 97  C0 9C 12 4B F5 8D F3 ED   ]....3>....K....
0x000002a0: 02 84 1D BE 63 EC 79 D5  17 F3 A7 2D 90 0B 21 62   ....c.y....-..!b
0x000002b0: 97 98 86 AF 13 88 EB 5C  E0 52 39 38 D9 B9 00 DB   .......\.R98....
0x000002c0: F6 F4 44 DD A2 9F F6 7C  7C D8 70 02 3E 8F F8 D0   ..D....||.p.>...
0x000002d0: D3 76 77 77 B3 3D 3E BD  6C B7 0F 2F DB 8F BF DE   .vww.=>.l../....
0x000002e0: E0 5F AF DB CF E7 4F DB  0D FE F6 F9 EE 71 FB F6   ._....O......q..
0x000002f0: F0 BA DD 3C D0 56 F1 6D  8F 98 0F 3A F2 37 AD 3F   ...<.V.m...:.7.?
0x00000300: F8 E7 BF B2 EC 88 59 CF  3A E8 3A E2 9B C8 32 F1   ......Y.:.:...2.
0x00000310: 40 71 B4 8F B1 CD BA 88  2D 49 34 BF F6 0B ED 95   @q......-I4.....
0x00000320: 37 E9 A1 27 9C C7 F8 7C  7D 50 49 7A 98 B2 05 2B   7..'...|}PIz...+
0x00000330: DD 8E 36 75 8E CD AF 2F  4E B7 EF F9 FC F9 C3 E5   ..6u.../N.......
0x00000340: F6 E1 FA 7C FB C3 FB F7  DB BF FC F9 FB ED 7F FC   ...|............
0x00000350: F7 FF B6 BD FB F8 7E FB  B7 7F FD 33 6D E3 69 3B   ......~....3m.i;
0x00000360: C5 6E FA F5 F6 44 5C 87  90 DE 27 9F BB DB FB ED   .n...D\...'.....
0x00000370: 16 1B DD DD BF 6C 5F 6E  1F B7 5F BE 3D 62 13 ED   .....l_n.._.=b..
0x00000380: 82 DD 1E 9F FB 3C 6F 77  D8 EB 95 B6 97 F6 66 70   .....<ow......fp
0x00000390: 8C 72 D4 01 F2 EA 26 D1  83 6F 7D DD 43 DF D2 0E   .r....&..o}.C...
```

MD5:	650018570a871013ef748b0b47761b25
Modified:	2025-03-02 23:01:37 EST

- **Bearcat Image 5-**

Name:	/img_lab3image1.E01/$CarvedFiles/1/f0229784.jpg
Type:	Carved
MIME Type:	image/jpeg



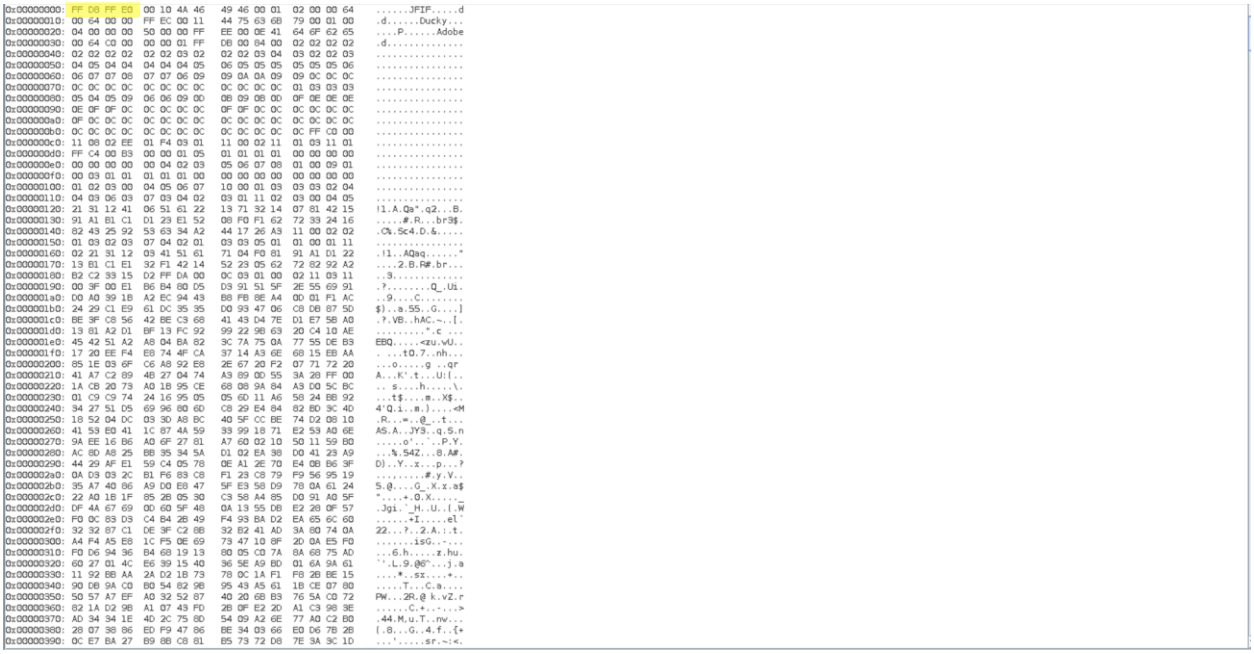
MD5:	61207fbe78d9148407bcdb116328b6c8
Modified:	0000-00-00 00:00:00

So, we can observe that the modified time is 0 which means that the file or image is deleted user can't open and modify it.

This image is basically deleted so it can't be accessed by Bob but deleted files are still stored in the disk which can help in digital forensic investigation.

- **Bearcat Image 6-**

Name:	/img_lab3image1.E01/$CarvedFiles/1/f0230880.jpg
Type:	Carved
MIME Type:	image/jpeg



MD5:	e3b89b17279a8a8ad51283b8f5d82e2f
Modified:	0000-00-00 00:00:00

This is also deleted image similar to above bearcat image 5 so modified time is 0.

This image is basically deleted so it can't be accessed by Bob but deleted files are still stored in the disk which can help in digital forensic investigation.

- **Bearcat Image 7-**

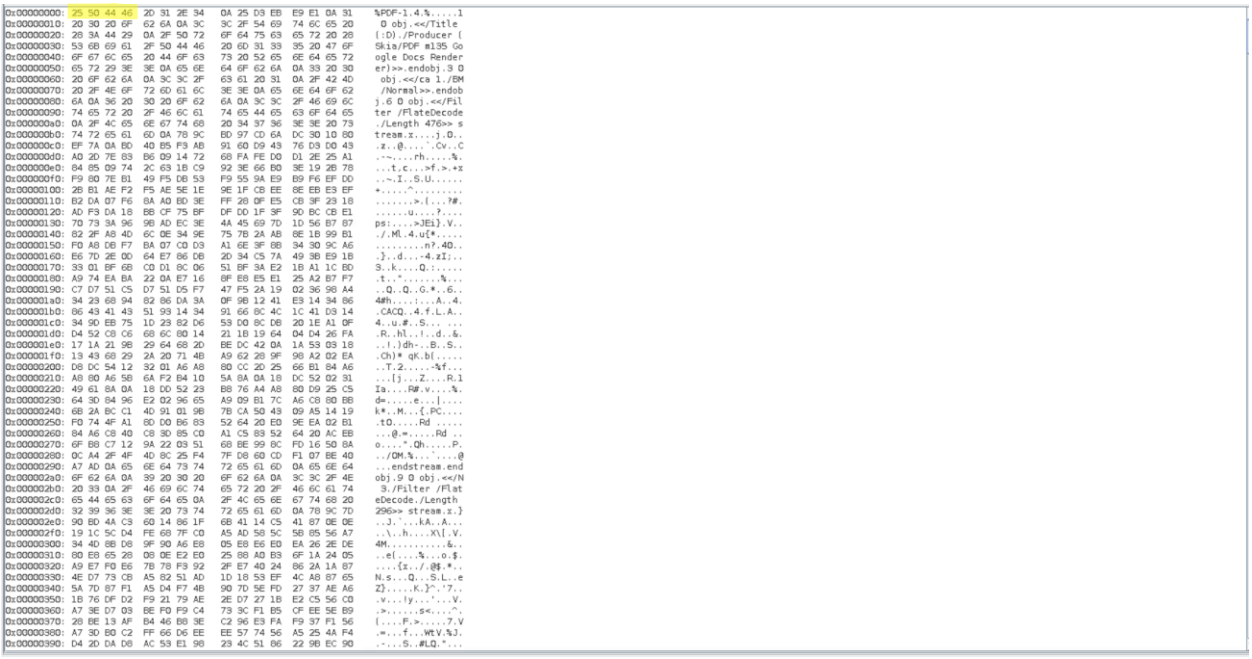
Name:	/img_lab3image1.E01/NotanImage.svg
Type:	File System
MIME Type:	image/svg+xml

```
0x00000000: 3C 73 76 67 20 76 65 72  73 69 6F 6E 3D 22 31 2E   <svg version="1.
0x00000010: 31 22 20 76 69 65 77 42  6F 78 3D 22 30 2E 30 20   1" viewBox="0.0
0x00000020: 30 2E 30 20 39 36 30 2E  30 20 35 34 30 2E 30 22   0.0 960.0 540.0"
0x00000030: 20 66 69 6C 6C 3D 22 6E  6F 6E 65 22 20 73 74 72    fill="none" str
0x00000040: 6F 6B 65 3D 22 6E 6F 6E  65 22 20 73 74 72 6F 6B   oke="none" strok
0x00000050: 65 2D 6C 69 6E 65 63 61  70 3D 22 73 71 75 61 72   e-linecap="squar
0x00000060: 65 22 20 73 74 72 6F 6B  65 2D 6D 69 74 65 72 6C   e" stroke-miterl
0x00000070: 69 6D 69 74 3D 22 31 30  22 20 78 6D 6C 6E 73 3A   imit="10" xmlns:
0x00000080: 78 6C 69 6E 6B 3D 22 68  74 74 70 3A 2F 2F 77 77   xlink="http://ww
0x00000090: 77 2E 77 33 2E 6F 72 67  2F 31 39 39 39 2F 78 6C   w.w3.org/1999/xl
0x000000a0: 69 6E 6B 22 20 78 6D 6C  6E 73 3D 22 68 74 74 70   ink" xmlns="http
0x000000b0: 3A 2F 2F 77 77 77 2E 77  33 2E 6F 72 67 2F 32 30   ://www.w3.org/20
0x000000c0: 30 30 2F 73 76 67 22 3E  3C 63 6C 69 70 50 61 74   00/svg"><clipPat
0x000000d0: 68 20 69 64 3D 22 70 2E  30 22 3E 3C 70 61 74 68   h id="p.0"><path
0x000000e0: 20 64 3D 22 6D 30 20 30  6C 39 36 30 2E 30 20 30    d="m0 0l960.0 0
0x000000f0: 6C 30 20 35 34 30 2E 30  6C 2D 39 36 30 2E 30 20   l0 540.0l-960.0
0x00000100: 30 6C 30 20 2D 35 34 30  2E 30 7A 22 20 63 6C 69   0l0 -540.0z" cli
0x00000110: 70 2D 72 75 6C 65 3D 22  6E 6F 6E 7A 65 72 6F 22   p-rule="nonzero"
0x00000120: 2F 3E 3C 2F 63 6C 69 70  50 61 74 68 3E 3C 67 20   /></clipPath><g
0x00000130: 63 6C 69 70 2D 70 61 74  68 3D 22 75 72 6C 28 23   clip-path="url(#
0x00000140: 70 2E 30 29 22 3E 3C 70  61 74 68 20 66 69 6C 6C   p.0)"><path fill
0x00000150: 3D 22 23 66 66 66 66 66  66 22 20 64 3D 22 6D 30   ="#ffffff" d="m0
0x00000160: 20 30 6C 39 36 30 2E 30  20 30 6C 30 20 35 34 30    0l960.0 0l0 540
0x00000170: 2E 30 6C 2D 39 36 30 2E  30 20 30 7A 22 20 66 69   .0l-960.0 0z" fi
0x00000180: 6C 6C 2D 72 75 6C 65 3D  22 65 76 65 6E 6F 64 64   ll-rule="evenodd
0x00000190: 22 2F 3E 3C 70 61 74 68  20 66 69 6C 6C 3D 22 23   "/><path fill="#
0x000001a0: 30 30 30 30 30 30 22 20  66 69 6C 6C 2D 6F 70 61   000000" fill-opa
0x000001b0: 63 69 74 79 3D 22 30 2E  30 22 20 64 3D 22 6D 33   city="0.0" d="m3
0x000001c0: 32 2E 37 32 35 20 38 35  20 37 38 2E 31 37 30 36   2.725285 78.1706
0x000001d0: 6C 38 39 34 2E 35 35 31  31 35 20 30 6C 30 20 32   l894.55115 0l0 2
0x000001e0: 31 35 2E 34 39 36 30 36  6C 2D 38 39 34 2E 35 35   15.49606l-894.55
0x000001f0: 31 31 35 20 30 7A 22 20  66 69 6C 6C 2D 72 75 6C   115 0z" fill-rul
0x00000200: 65 3D 22 65 76 65 6E 6F  64 64 22 2F 3E 3C 70 61   e="evenodd"/><pa
0x00000210: 74 68 20 66 69 6C 6C 3D  22 23 30 30 30 30 30 30   th fill="#000000
0x00000220: 22 20 66 69 6C 6C 2D 6F  70 61 63 69 74 79 3D 22   " fill-opacity="
0x00000230: 30 2E 30 22 20 64 3D 22  6D 33 32 2E 37 32 34 34   0.0" d="m32.7244
0x00000240: 31 20 32 39 37 2E 35 34  35 39 33 6C 38 39 34 2E   1 297.54593l894.
0x00000250: 35 35 31 31 35 20 30 6C  30 20 38 33 2E 32 31 32   55115 0l0 83.212
0x00000260: 36 31 36 6C 2D 38 39 34  2E 35 35 31 31 35 20 30   616l-894.55115 0
0x00000270: 7A 22 20 66 69 6C 6C 2D  72 75 6C 65 3D 22 65 76   z" fill-rule="ev
0x00000280: 65 6E 6F 64 64 22 2F 3E  3C 70 61 74 68 20 66 69   enodd"/><path fi
0x00000290: 6C 6C 3D 22 23 30 30 30  30 30 30 22 20 66 69 6C   ll="#000000" fil
0x000002a0: 6C 2D 6F 70 61 63 69 74  79 3D 22 30 2E 30 22 20   l-opacity="0.0"
0x000002b0: 64 3D 22 6D 33 2E 33 35  34 33 33 30 38 45 2D 34   d="m3.3543308E-4
0x000002c0: 20 33 2E 33 35 34 33 33  30 38 45 2D 34 6C 39 36    3.3543308E-4l96
0x000002d0: 30 2E 30 30 30 30 36 20  30 6C 30 20 36 33 38 2E   0.00006 0l0 638.
0x000002e0: 30 33 34 38 6C 2D 39 36  30 2E 30 30 30 30 36 20   0348l-960.00006
0x000002f0: 30 7A 22 20 66 69 6C 6C  2D 72 75 6C 65 3D 22 65   0z" fill-rule="e
0x00000300: 76 65 6E 6F 64 64 22 2F  3E 3C 67 20 74 72 61 6E   venodd"/><g tran
0x00000310: 73 66 6F 72 6D 3D 22 6D  61 74 72 69 78 28 33 2E   sform="matrix(3.
0x00000320: 34 39 30 39 30 39 31 38  36 33 35 31 37 30 36 20   4909091863517706
0x00000330: 30 2E 30 20 30 2E 30 20  33 2E 34 39 30 39 30 30   0.0 0.0 3.490900
0x00000340: 32 36 32 34 36 37 31 39  31 34 20 33 2E 33 35 34   2624671914 3.354
0x00000350: 33 33 30 37 30 38 36 36  31 34 31 37 33 45 2D 34   3307086614173E-4
0x00000360: 20 33 2E 33 35 34 33 33  30 37 30 38 36 36 31 34    3.3543307086614
0x00000370: 31 37 33 45 2D 34 29 22  3E 3C 63 6C 69 70 50 61   173E-4)"><clipPa
0x00000380: 74 68 20 69 64 3D 22 70  2E 31 22 3E 3C 70 61 74   th id="p.1"><pat
0x00000390: 68 20 64 3D 22 6D 31 2E  33 35 35 32 35 32 37 45   h d="m1.3552527E
```

MD5:	2625645b2f01f27f9fd80ea77e82c3dc
Modified:	2025-03-02 21:52:14 EST

- **Bearcat Image 8-**

Name:	/img_lab3image1.E01/Desktop/_D.pedeef
Type:	File System
MIME Type:	application/pdf



MD5:	9a4b9fd559ef24d252378145c9a909dc
Modified:	2025-03-02 22:45:15 EST

This image is hidden inside a pdf file named "_D.pedeef" which I opened and saved the bearcat's image from 2nd slide.

- **Bearcat Image 9-**

Name:	/img_lab3image1.E01/Documents/week1.odp
Type:	File System
MIME Type:	application/vnd.oasis.opendocument.presentation

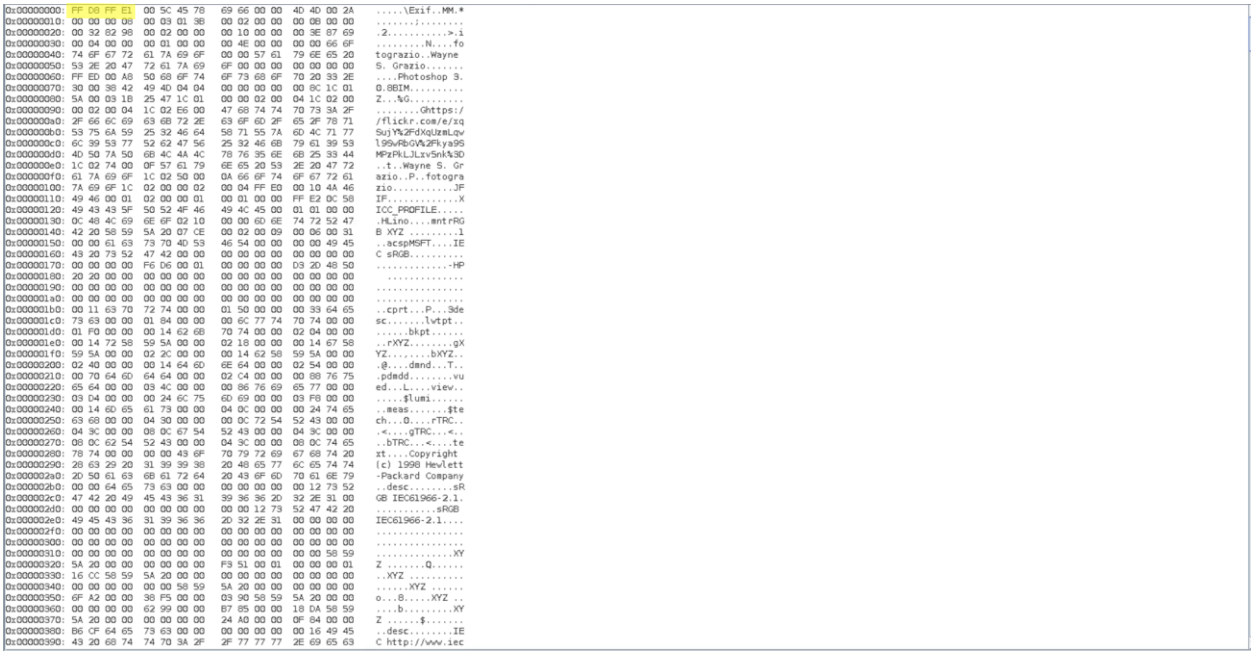
```
0x00000000: 50 4B 03 04 14 00 00 08  00 00 D5 16 63 5A 33 26   PK..........cZ3&
0x00000010: AC A8 2F 00 00 00 2F 00  00 00 08 00 00 00 6D 69   ../.../.......mi
0x00000020: 6D 65 74 79 70 65 61 70  70 6C 69 63 61 74 69 6F   metypeapplicatio
0x00000030: 6E 2F 76 6E 64 2E 6F 61  73 69 73 2E 6F 70 65 6E   n/vnd.oasis.open
0x00000040: 64 6F 63 75 6D 65 6E 74  2E 70 72 65 73 65 6E 74   document.present
0x00000050: 61 74 69 6F 6E 50 4B 03  04 14 00 00 08 00 00 D5   ationPK........
0x00000060: 16 63 5A 0A 67 1C 01 9B  08 00 00 9B 08 00 00 18   .cZ.g...........
0x00000070: 00 00 00 54 68 75 6D 62  6E 61 69 6C 73 2F 74 68   ...Thumbnails/th
0x00000080: 75 6D 62 6E 61 69 6C 2E  70 6E 67 89 50 4E 47 0D   umbnail.png.PNG.
0x00000090: 0A 1A 0A 00 00 00 0D 49  48 44 52 00 00 01 00 00   .......IHDR.....
0x000000a0: 00 00 90 08 03 00 00 00  D0 ED 45 A3 00 00 00 66   ..........E....f
0x000000b0: 50 4C 54 45 01 01 01 0B  0B 0B 14 14 14 1A 1A 1A   PLTE............
0x000000c0: 22 22 22 2B 2B 2B 33 33  33 3B 3B 3B 42 42 42 4A   """+++333;;;BBBJ
0x000000d0: 4A 4A 52 52 52 5A 5A 5A  63 63 63 6B 6B 6B 74 74   JJRRRZZZccckkktt
0x000000e0: 74 7C 7C 7C 83 83 83 8B  8B 8B 93 93 93 9B 9B 9B   t|||............
0x000000f0: A3 A3 A3 AB AB AB B3 B3  B3 BB BB BB C3 C3 C3 CB   ................
0x00000100: CB CB D3 D3 D3 DA DA DA  E3 E3 E3 EB EB EB F3 F3   ................
0x00000110: F3 FE FE FE 00 00 00 FF  FF FF 2F 4C 9E 70 00 00   ........../L.p..
0x00000120: 07 F0 49 44 41 54 78 DA  ED 9B 09 9B A3 20 10 86   ..IDATx...... ..
0x00000130: C1 23 D1 44 C5 0B 45 E4  F8 FF FF 72 AB F0 88 99   .#.D..E....r....
0x00000140: 4E EF CE 6C 1F BB 9D 14  FD BC 31 8A 05 BC 7C 55   N..l......1...|U
0x00000150: 1C 71 98 7F F1 C4 08 00  01 20 00 04 80 00 10 00   .q....... ......
0x00000160: 02 40 00 08 00 01 20 00  04 80 00 10 00 02 40 00   .@.... .......@.
0x00000170: 08 00 01 20 00 04 80 00  10 00 02 40 00 08 00 01   ... .......@....
0x00000180: 20 00 04 80 00 10 00 02  40 00 08 00 01 20 00 04    ....... @.... ..
0x00000190: E0 FF 90 64 E7 BD 6A DC  F7 03 E8 72 48 97 B2 FF   ...d..j....rH...
0x000001a0: AF 01 64 B1 F7 82 99 EF  07 50 B2 EC 72 C9 13 76   ..d......P..r..v
0x000001b0: FE 73 F8 C9 F8 99 00 92  DF 05 60 63 FD B9 00 66   .s........`c...f
0x000001c0: FC 28 58 F7 A7 55 9E D9  67 02 38 07 00 F3 6F E4   .(X..U..g.8...o.
0x000001d0: 54 EC 2B 00 8C AC C6 36  5D 62 9E 36 F8 5D C3 59   T.+....6]b.6.].Y
0x000001e0: 52 59 B8 94 8F 65 04 70  FA 13 8F 0B EC 20 79 8E   RY...e.p..... y.
0x000001f0: F8 29 5C 60 A7 DC F9 1E  BF 36 9B 35 27 52 1E E5   .)\`.....6.5'R..
0x00000200: 58 C1 A2 96 71 0E 8F 5F  A3 D5 22 A6 21 D7 59 04   X...q.._.."...Y.
0x00000210: 77 9B 94 C7 D7 50 6E 7D  E2 51 A6 6E 2E D0 E6 66   w....Pn}.Q.n...f
0x00000220: C9 38 AD BF 40 D6 A4 84  7A 5C 05 7E 13 57 DF A6   .8..@...z\.~.W..
0x00000230: EC 7C 81 0A DE 19 FE 38  80 96 49 A8 6D 94 F6 63   .|.....8..I.m..c
0x00000240: C5 4A EF 4D 9C 74 63 CD  B0 20 76 49 2B E5 1B 56   .J.M.tc.. vI+..V
0x00000250: C8 26 4A A1 C1 2C 97 C3  05 F5 5E 5D 59 D1 B8 81   .&J..,....^]Y...
0x00000260: 5D 87 A1 DC F4 30 5D 98  18 FA 24 82 46 A4 E7 A4   ].....0]...$.F...
0x00000270: 6C C1 62 B2 5A F4 4B 29  97 AC 32 FE CA AA 71 C9   l.b.Z.K)..2...q.
0x00000280: 55 B2 6A 00 B4 7A 77 01  B5 98 CA A3 D5 23 2B 56   U.j..zw......#+V
0x00000290: C9 9A 67 DE 25 D9 1A 29  C6 9C 55 AD D3 7B 55 3F   ..g.%..)..U..{U?
0x000002a0: 0E A0 57 6A 6C F8 15 CE  AF 7C 5E 91 A8 7C DC 7E   ..Wjl....|^..|.~
0x000002b0: 61 01 40 DC FC 1D 87 DE  F4 30 97 BE C9 81 6A 50   a.@.....=....jP
0x000002c0: 25 40 01 79 0A 8E 5F D8  D5 7F 5C E8 A7 01 D0 29   %@.y.._...\....)
0x000002d0: 65 C3 9D C5 25 E2 B2 3C  68 18 73 69 AC 7D 51 84   e...%..<h.si.}Q.
0x000002e0: 33 B1 29 60 F6 69 82 6E  BE B5 6C E6 98 A1 E1 CA   3.)`.i.n..l.....
0x000002f0: C7 1B 00 E8 0B FD C6 F0  87 00 84 74 02 19 BA 28   ...........t...(
0x00000300: 5B 7C AC 5D EF D5 50 94  66 45 F0 90 FB 10 71 4A   [|.]..P.fE....qJ
0x00000310: 57 00 82 35 0F 82 03 34  28 C5 3E 74 F1 BD C5 2E   W..5...4(.>t....
0x00000320: 98 A9 59 D0 F7 39 DD FC  06 8B D8 82 60 8B 56 DB   ..Y..9......`.V.
0x00000330: CD CD BB 80 11 D3 3D 80  BD AA DD 27 00 18 8D 99   ......=....'....
0x00000340: 15 AA D8 80 38 83 74 66  15 3A 61 CC 81 0B 02 A8   ....8.tf.:a.....
0x00000350: EF 2A E2 9A 53 04 77 92  15 80 3D 33 9E E7 76 6F   .*..S.w...=3..vo
0x00000360: 7B 91 72 B8 08 8F A4 A7  DD 93 37 8B 4B 7B 50 58   {.r.......7.K{PX
0x00000370: 57 76 C6 AB 11 88 C7 94  69 04 C5 14 5B 10 34 DE   Wv......i...[.4.
0x00000380: A2 16 B3 D3 DE 05 6B 2C  B8 B9 40 00 60 20 72 1C   ......k,..@.` r.
0x00000390: 0D 7F 3C 06 F8 0B 37 86  9D 84 A8 85 10 03 34 2E   ..<...7.......4.
```

MD5:	83268666d0ba2e3481264621 4080fdaa
Modified:	2025-03-02 21:54:44 EST

This image located inside a presentation file named “week1” and bearcat’s image can be saved from 2nd slide inside it.

- **Bearcat Image 10-**

Name:	/img_lab3image1.E01/Music/Tutorial.mp4
Type:	File System
MIME Type:	image/jpeg



MD5:	55b4a9deea9e67e896c0e195505cf9b0
Modified:	2025-03-02 22:05:18 EST

This image is basically presented in mp4 format which can be converted into jpg format (which I convert during my investigation).

- **Bearcat Image 11-**

Name:	/img_lab3image1.E01/Documents/.hiddden.jpeg
Type:	File System
MIME Type:	image/jpeg

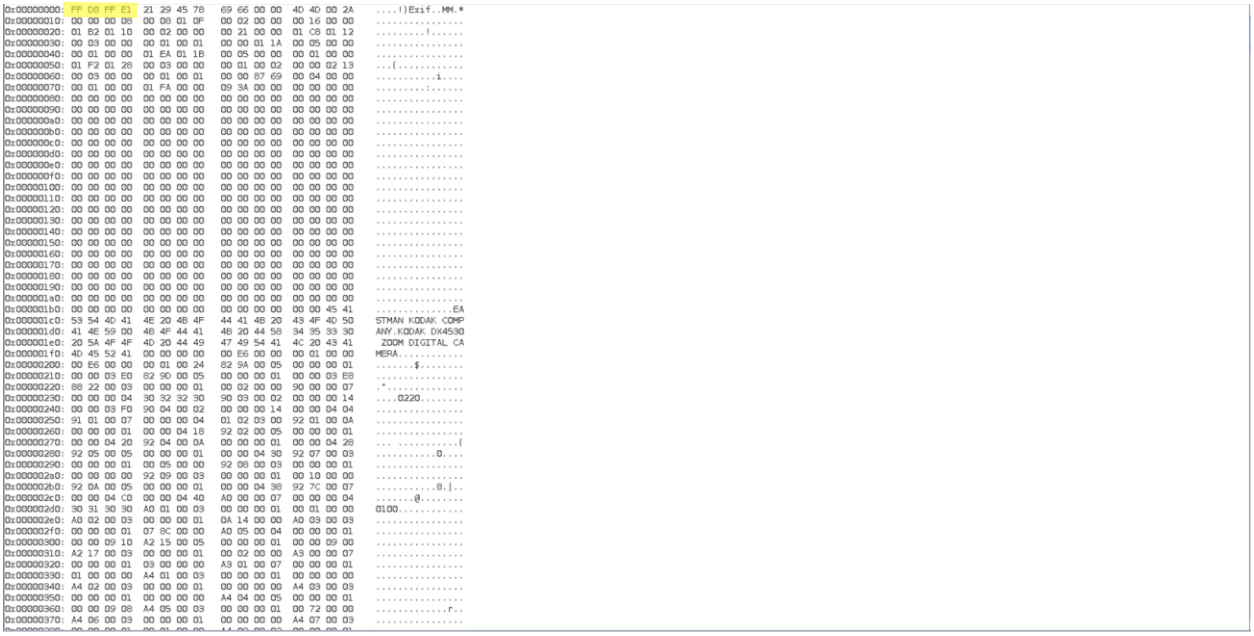
```
0x00000000: FF D8 FF E0  00 10 4A 46  49 46 00 01  01 00 00 01   ......JFIF......
0x00000010: 00 01 00 00  FF DB 00 84  00 09 06 07  13 13 12 15   ................
0x00000020: 13 13 13 16  15 15 17 17  17 1A 18 17  17 17 17 18   ................
0x00000030: 1A 17 18 17  18 17 1D 17  18 18 18 18  1D 28 20 18   .............( .
0x00000040: 1D 25 1D 17  17 21 31 21  25 29 2B 2E  2E 2E 17 1F   .%...!1!%)+.....
0x00000050: 33 38 33 2D  37 28 2D 2E  2B 01 0A 0A  0A 0E 0C 0D   383-7(-.+.......
0x00000060: 1A 0F 10 1A  35 25 1F 25  37 2B 2F 2D  38 32 32 31   ....5%.%7+/-8221
0x00000070: 2D 35 35 2D  2E 38 38 33  34 36 2D 2D  31 35 2D 2D   -55-.88346--15--
0x00000080: 2D 2E 2D 38  32 37 34 2D  2D 37 2F 2E  37 2F 2D 2B   -.-8274--7/.7/-+
0x00000090: 34 35 38 35  37 2B 38 2D  2B 2F FF C0  00 11 08 00   45857+8-+/......
0x000000a0: A8 01 2C 03  01 22 00 02  11 01 03 11  01 FF C4 00   ..,..".........
0x000000b0: 1B 00 00 02  03 01 01 01  00 00 00 00  00 00 00 00   ................
0x000000c0: 00 00 03 04  01 02 05 00  06 07 FF C4  00 43 10 00   .............C..
0x000000d0: 01 03 02 04  03 05 05 05  06 04 05 05  00 00 00 01   ................
0x000000e0: 00 02 11 03  21 04 12 31  41 51 61 71  05 13 22 81   ....!..1AQaq..".
0x000000f0: 91 06 A1 B1  D1 F0 07 14  C1 D3 E1 23  32 42 62 92   ...........#2Bb.
0x00000100: F1 52 53 72  B3 15 16 17  B2 D2 33 43  82 83 A2 FF   .RSr......3C....
0x00000110: C4 00 18 01  01 00 03 01  00 00 00 00  00 00 00 00   ................
0x00000120: 00 00 00 00  00 01 02 05  04 FF C4 00  1C 11 01 00   ................
0x00000130: 02 03 01 01  01 00 00 00  00 00 00 00  00 00 00 01   ................
0x00000140: 11 02 03 12  51 31 21 FF  DA 00 0C 03  01 00 02 11   ....Q1!.........
0x00000150: 03 11 00 3F  00 F9 3F B3  95 D8 42 B6  77 BA A8 6E   ...?..?...B.w..n
0x00000160: 52 3F 60 E0  D7 C9 88 19  8C 43 78 C1  04 8B 48 99   R?`......Cx...H.
0x00000170: 5E 83 B4 7D  AB 65 4A 75  9B D0 30 9A  82 A0 83 91   ^..}.eJu..0.....
0x00000180: AC 79 A8 5A  45 5A AD 12  4D 4A 71 0D  32 74 69 26   .y.ZEZ..MJq.2ti&
0x00000190: 73 66 F2 D0  BA 10 7B 0C  17 B5 D4 69  D5 2E 0C AD   sf....{....i....
0x000001a0: DD BA BE 16  9B A0 86 BC  BB 0C DC 93  34 DC D2 1A   ............4...
0x000001b0: E6 DE CE D4  E8 60 2C 9C  27 6D D1 6D  66 D5 FB 95   .....`,.'m.mf...
0x000001c0: 29 15 1C E2  F3 56 BB EA  41 2E 8B D4  79 61 78 CC   )....V..A...yax.
0x000001d0: 0B 71 66 AD  06 16 24 29  08 3D CE 03  DB 7A 6C 90   .qf...$).=...zl.
0x000001e0: 68 3D E0 06  F8 9C E8 7D  72 29 96 13  89 2D 70 0E   h=.....}r)...-p.
0x000001f0: 99 D0 8A 82  36 26 4B B2  3B 13 1B 4D  AE 96 E1 A9   ....6&K.;..M....
0x00000200: 51 3D DB D8  6B 52 A9 5B  BD 69 70 03  BC 67 7A F7   Q=..kR.[.ip..gz.
0x00000210: 35 AE 10 74  02 CE 30 45  8A F3 E0 A6  68 D5 B1 6E   5..t..0E....h..n
0x00000220: C5 07 A6 C5  F6 D5 17 D1  C6 52 1B 5A  41 D8 8B 3D   .........R.ZA..=
0x00000230: E8 7B B3 4B  5C C2 D2 E8  60 1F C2 5C  43 60 17 3C   .{.K\...`..\C`.<
0x00000240: C8 8D 12 F6  33 B4 1B 83  EF 45 46 97  77 9D DC 3A   ....3....EF.w..:
0x00000250: 9B DC D7 37  23 9C 4B 64  16 9C AE 0E  BF 8B 56 B6   ...7#.Kd......V.
0x00000260: C7 6C AA 94  C8 D5 11 B7  41 A7 D9 FD  A8 29 55 A5   .l..4....A....)U.
0x00000270: 51 B4 F2 E4  AF 8B A8 40  2C 24 32 BB  43 43 5A FE   Q......@,$2.CCZ.
0x00000280: EC 3C B9 A2  6E E7 45 81  19 4D D6 BD  4F 68 98 49   .<..n.E..M..Oh.I
0x00000290: 22 8B C8 81  39 EA B9 FD  FF 00 81 CD  34 EB 87 E6   "...9.......4...
0x000002a0: 22 94 BA 43  1A E3 7C C7  52 0B 7C ED  1A 32 99 14   "..C..|.R.|..2..
0x000002b0: D0 4F E5 D7  14 DD 40 9E  F1 9D DD 17  59 71 A4 E6   .O....@.....Yq..
0x000002c0: B0 B8 9A AE  7E B4 DA C7  96 C1 13 2F  CD CE 2C B4   ....~....../....
0x000002d0: 7B 53 B7 19  55 98 8D DA  21 9D E9 AD  0C 96 F7 67   {S..U...!......g
0x000002e0: BD 70 2D AB  50 35 82 6A  D3 88 69 1C  04 99 CC 5F   .p-.P5.j..i....
0x000002f0: 9E 19 23 4D  10 2A 53 21  01 FD 97 C4  55 C1 D2 AC   ..#M.*S!....U...
0x00000300: 18 69 9A 95  1D 45 CD 71  75 4D 1A 29  F7 85 CD E4   .i...E.quM.)....
0x00000310: 82 67 30 B4  C5 AE 0A D0  C4 E2 3E F1  87 A9 41 B4   .g0.......>...A.
0x00000320: F0 CD 7B A8  61 E9 E7 0D  CA F2 EA 26  99 71 25 AC   ..{.a......&.q%.
0x00000330: 8C A7 23 A0  08 3E 20 0C  86 B4 37 26  8B B5 1B 28   ..#..> ...7&...(
0x00000340: 69 7B A3 98  5F 82 0F 3D  53 B2 9E 0C  12 D8 73 3F   i{.._..=S.....s?
0x00000350: 25 A7 EC E6  27 EE C6 81  7D 26 56 EF  28 9A 61 AF   %...'...}&V.(.a.
0x00000360: 12 D9 2F A6  E9 70 B1 88  61 12 D2 08  99 04 11 2A   ../..p..a......*
0x00000370: B5 EA 9D 50  4D 59 B4 20  6F B4 7B 40  54 C6 B3 16   ...PMY. o.{@T...
0x00000380: 29 37 28 34  09 A5 E1 68  77 72 CA 61  C2 03 72 B4   )7(4...hwr.a..r.
0x00000390: 38 B0 DA 20  03 A2 D8 F6  8F DA 6A 38  87 53 7B 70   8.. ......j8.S{p
```

MD5:	e2cbba63dc655fa7c679791cc15a7ce9
Modified:	2025-03-02 22:59:38 EST

4.

- **<u>Flower Image 1-</u>**

Name:	/img_macwd.E01/vol_vol8/$CarvedFiles/1/f0000575.jpg
Type:	Carved
MIME Type:	image/jpeg

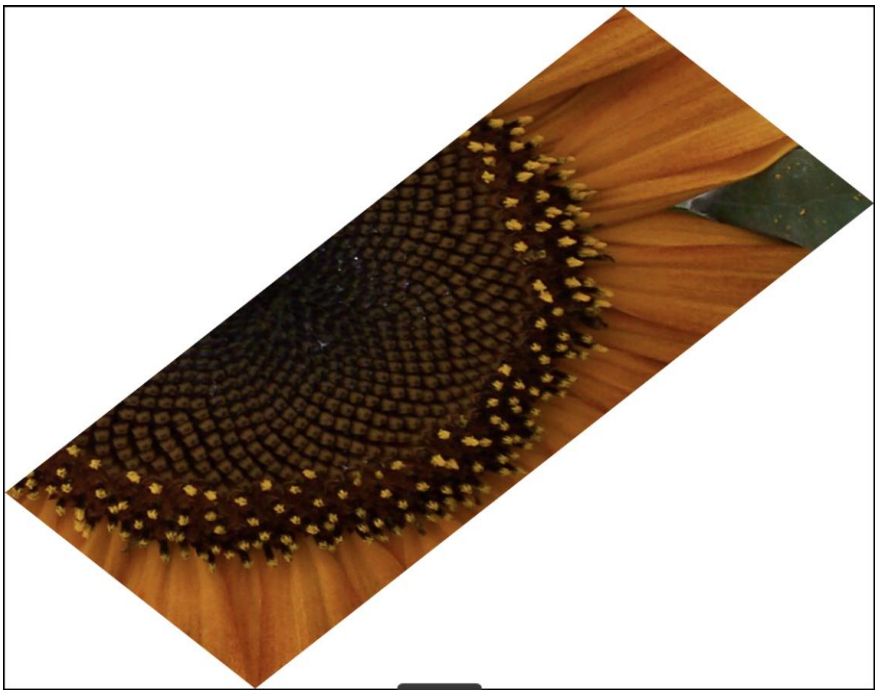


MD5:	1167d6b54afaefe305b70107077cf2c5
Modified:	0000-00-00 00:00:00

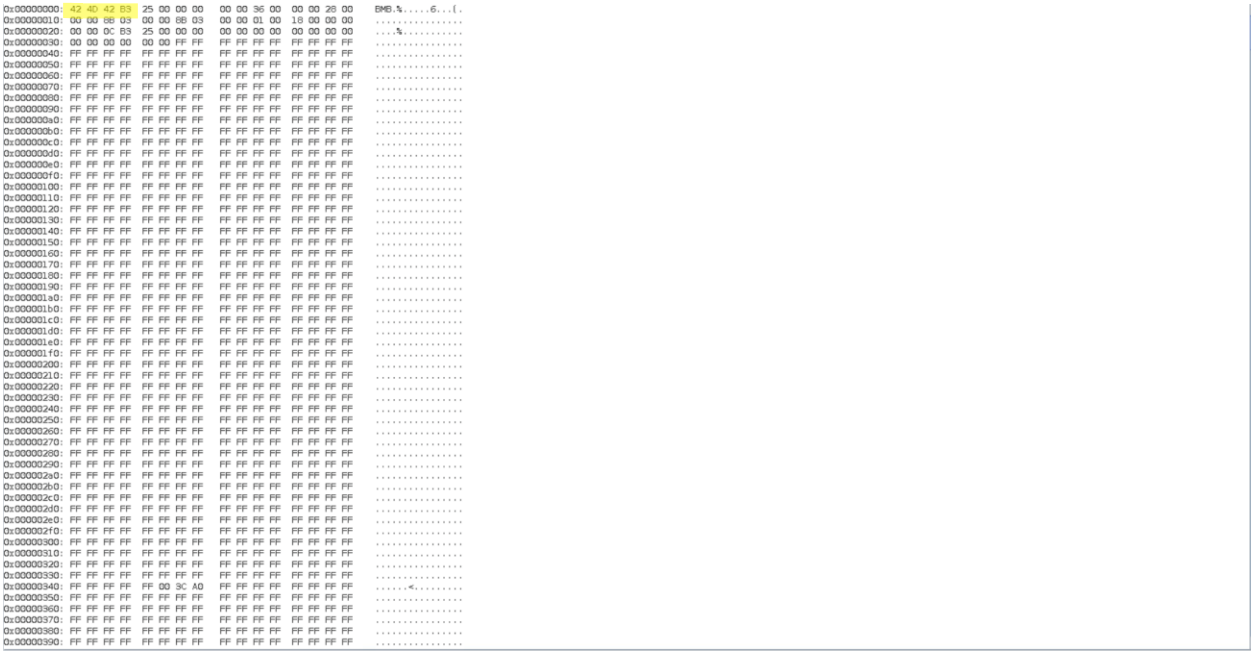
As we can observe that the flower image is deleted so modified date and time is 0.

This flower image is basically deleted by Bob accidently so can't be accessed by anyone but deleted files are still stored in the disk which can help in digital forensic investigation.

- **Flower Image 2-**



Name:	/img_macwd.E01/vol_vol8/$CarvedFiles/1/f0002628.bmp
Type:	Carved
MIME Type:	image/bmp

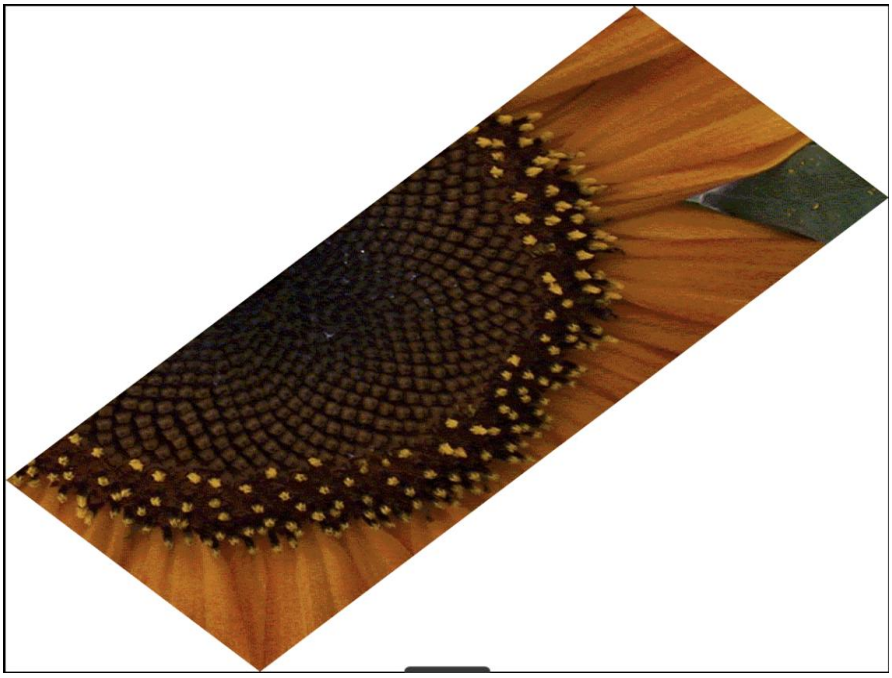


MD5:	d9571beba8ef607c6c799d6ca870549c
Modified:	0000-00-00 00:00:00

As we can observe that the flower image is deleted so modified date and time is 0.

This flower image is basically deleted by Bob accidently so can't be accessed by anyone but deleted files are still stored in the disk which can help in digital forensic investigation.

- **Flower Image 3-**



Name:	/img_macwd.E01/vol_vol8/$CarvedFiles/1/f0007454.gif
Type:	Carved
MIME Type:	image/gif

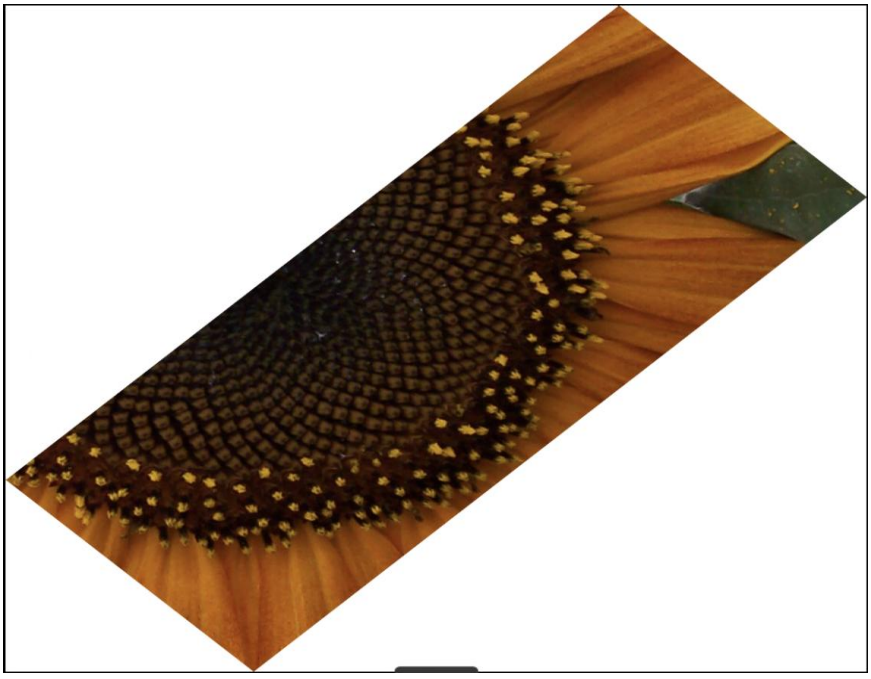
```
0x00000000: 47 49 46 38 37 61 8B 03  8B 03 F7 00  00 00 00 00   GIF87a..........
0x00000010: 00 00 55 00  00 AA 00 00  FF 00 24 00  00 24 55 00   ..U.......$..$U.
0x00000020: 24 AA 00 24  FF 00 49 00  00 49 55 00  49 AA 00 49   $..$..I..IU.I..I
0x00000030: FF 00 6D 00  00 6D 55 00  6D AA 00 6D  FF 00 92 00   ..m..mU.m..m....
0x00000040: 00 92 55 00  92 AA 00 92  FF 00 B6 00  00 B6 55 00   ..U...........U.
0x00000050: B6 AA 00 B6  FF 00 DB 00  00 DB 55 00  DB AA 00 DB   ..........U.....
0x00000060: FF 00 FF 00  00 FF 55 00  FF AA 00 FF  FF 24 00 00   ......U......$..
0x00000070: 24 00 55 24  00 AA 24 00  FF 24 24 00  24 24 55 24   $.U$..$..$$.$$U$
0x00000080: 24 AA 24 24  FF 24 49 00  24 49 55 24  49 AA 24 49   $.$$.$I.$IU$I.$I
0x00000090: FF 24 6D 00  24 6D 55 24  6D AA 24 6D  FF 24 92 00   .$m.$mU$m.$m.$..
0x000000a0: 24 92 55 24  92 AA 24 92  FF 24 B6 00  24 B6 55 24   $.U$..$..$..$.U$
0x000000b0: B6 AA 24 B6  FF 24 DB 00  24 DB 55 24  DB AA 24 DB   ..$..$..$.U$..$.
0x000000c0: FF 24 FF 00  24 FF 55 24  FF AA 24 FF  FF 49 00 00   .$..$.U$..$..I..
0x000000d0: 49 00 55 49  00 AA 49 00  FF 49 24 00  49 24 55 49   I.UI..I..I$.I$UI
0x000000e0: 24 AA 49 24  FF 49 49 00  49 49 55 49  49 AA 49 49   $.I$.II.IIUII.II
0x000000f0: FF 49 6D 00  49 6D 55 49  6D AA 49 6D  FF 49 92 00   .Im.ImUIm.Im.I..
0x00000100: 49 92 55 49  92 AA 49 92  FF 49 B6 00  49 B6 55 49   I.UI..I..I..I.UI
0x00000110: B6 AA 49 B6  FF 49 DB 00  49 DB 55 49  DB AA 49 DB   ..I..I..I.UI..I.
0x00000120: FF 49 FF 00  49 FF 55 49  FF AA 49 FF  FF 6D 00 00   .I..I.UI..I..m..
0x00000130: 6D 00 55 6D  00 AA 6D 00  FF 6D 24 00  6D 24 55 6D   m.Um..m..m$.m$Um
0x00000140: 24 AA 6D 24  FF 6D 49 00  6D 49 55 6D  49 AA 6D 49   $.m$.mI.mIUmI.mI
0x00000150: FF 6D 6D 00  6D 6D 55 6D  6D AA 6D 6D  FF 6D 92 00   .mm.mmUmm.mm.m..
0x00000160: 6D 92 55 6D  92 AA 6D 92  FF 6D B6 00  6D B6 55 6D   m.Um..m..m..m.Um
0x00000170: B6 AA 6D B6  FF 6D DB 00  6D DB 55 6D  DB AA 6D DB   ..m..m..m.Um..m.
0x00000180: FF 6D FF 00  6D FF 55 6D  FF AA 6D FF  FF 92 00 00   .m..m.Um..m.....
0x00000190: 92 00 55 92  00 AA 92 00  FF 92 24 00  92 24 55 92   ..U.......$..$U.
0x000001a0: 24 AA 92 24  FF 92 49 00  92 49 55 92  49 AA 92 49   $..$..I..IU.I..I
0x000001b0: FF 92 6D 00  92 6D 55 92  6D AA 92 6D  FF 92 92 00   ..m..mU.m..m....
0x000001c0: 92 92 55 92  92 AA 92 92  FF 92 B6 00  92 B6 55 92   ..U...........U.
0x000001d0: B6 AA 92 B6  FF 92 DB 00  92 DB 55 92  DB AA 92 DB   ..........U.....
0x000001e0: FF 92 FF 00  92 FF 55 92  FF AA 92 FF  FF B6 00 00   ......U.........
0x000001f0: B6 00 55 B6  00 AA B6 00  FF B6 24 00  B6 24 55 B6   ..U.......$..$U.
0x00000200: 24 AA B6 24  FF B6 49 00  B6 49 55 B6  49 AA B6 49   $..$..I..IU.I..I
0x00000210: FF B6 6D 00  B6 6D 55 B6  6D AA B6 6D  FF B6 92 00   ..m..mU.m..m....
0x00000220: B6 92 55 B6  92 AA B6 92  FF B6 B6 00  B6 B6 55 B6   ..U...........U.
0x00000230: B6 AA B6 B6  FF B6 DB 00  B6 DB 55 B6  DB AA B6 DB   ..........U.....
0x00000240: FF B6 FF 00  B6 FF 55 B6  FF AA B6 FF  FF DB 00 00   ......U.........
0x00000250: DB 00 55 DB  00 AA DB 00  FF DB 24 00  DB 24 55 DB   ..U.......$..$U.
0x00000260: 24 AA DB 24  FF DB 49 00  DB 49 55 DB  49 AA DB 49   $..$..I..IU.I..I
0x00000270: FF DB 6D 00  DB 6D 55 DB  6D AA DB 6D  FF DB 92 00   ..m..mU.m..m....
0x00000280: DB 92 55 DB  92 AA DB 92  FF DB B6 00  DB B6 55 DB   ..U...........U.
0x00000290: B6 AA DB B6  FF DB DB 00  DB DB 55 DB  DB AA DB DB   ..........U.....
0x000002a0: FF DB FF 00  DB FF 55 DB  FF AA DB FF  FF FF 00 00   ......U.........
0x000002b0: FF 00 55 FF  00 AA FF 00  FF FF 24 00  FF 24 55 FF   ..U.......$..$U.
0x000002c0: 24 AA FF 24  FF FF 49 00  FF 49 55 FF  49 AA FF 49   $..$..I..IU.I..I
0x000002d0: FF FF 6D 00  FF 6D 55 FF  6D AA FF 6D  FF FF 92 00   ..m..mU.m..m....
0x000002e0: FF 92 55 FF  92 AA FF 92  FF FF B6 00  FF B6 55 FF   ..U...........U.
0x000002f0: B6 AA FF B6  FF FF DB 00  FF DB 55 FF  DB AA FF DB   ..........U.....
0x00000300: FF FF FF 00  FF FF 55 FF  FF AA FF FF  FF 21 F9 04   ......U......!..
0x00000310: 00 00 00 00  00 2C 00 00  00 00 8B 03  8B 03 40 08   .....,........@.
0x00000320: FF 00 FF 09  1C 48 B0 A0  C1 83 08 13  2A 5C C8 B0   .....H......*\..
0x00000330: A1 C3 87 10  23 4A 9C 48  B1 A2 C5 8B  18 33 6A DC   ....#J.H.....3j.
0x00000340: CB B1 A3 C7  8F 20 49 BA  1C F9 10 11  22 92 28 53   ..... C....."(S
0x00000350: AA 5C C9 B2  A5 CB 97 30  63 CA 9C 49  B3 A6 CD 9B   .\.....0c..I....
0x00000360: 38 73 BA 44  84 8A 27 AA  9F 40 83 FE  3C A9 B3 A8   8s.D..'..@..<...
0x00000370: D1 A3 48 93  2A 5D CA B4  A9 D3 A7 50  A3 52 24 84   ..H.*]....P.R$.
0x00000380: 88 2A A1 AB  58 4D F2 64  C5 93 27 23  54 5F B1 B2   .*..XM.d..'#T_..
0x00000390: 1A 4B 96 95  D4 B3 68 D3  AA 5D CB B6  AD DB B7 70   .K....h..]....p
```

MD5:	0b910d6c21828e0b8be06322168fbd60
Modified:	0000-00-00 00:00:00

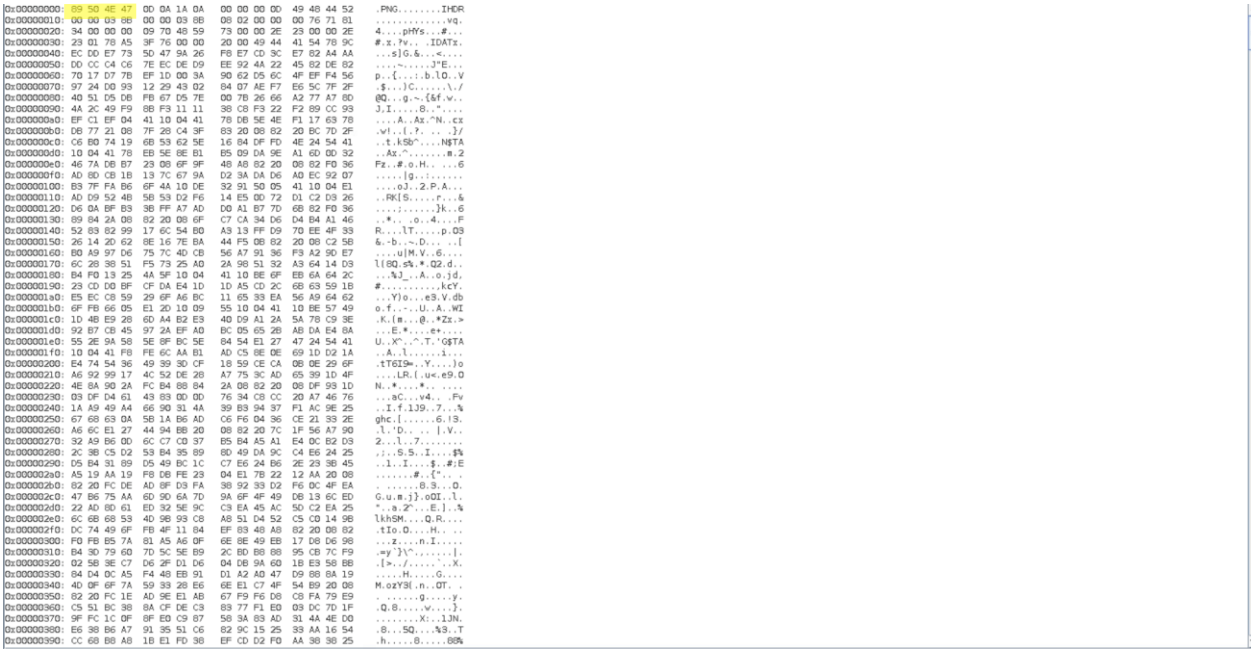
As we can observe that the flower image is deleted so modified date and time is 0.

This flower image is basically deleted by Bob accidently so can't be accessed by anyone but deleted files are still stored in the disk which can help in digital forensic investigation.

- **Flower Image 4-**



Name:	/img_macwd.E01/vol_vol8/$CarvedFiles/1/f0009688.png
Type:	Carved
MIME Type:	image/png

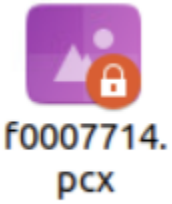


MD5:	033a9be1d239b22c1a27984a8d8eaa7c
Modified:	0000-00-00 00:00:00

As we can observe that the flower image is deleted so modified date and time is 0.

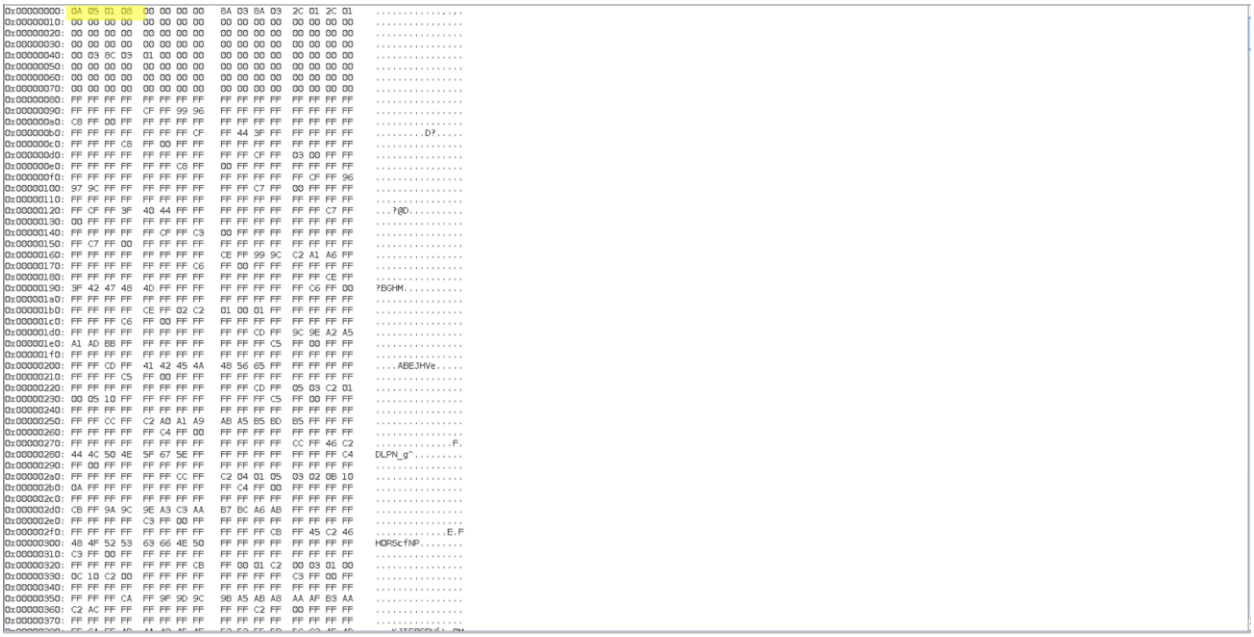
This flower image is basically deleted by Bob accidently so can't be accessed by anyone but deleted files are still stored in the disk which can help in digital forensic investigation.

- **Flower Image 5-**



Pcx is an image file which can only be opened by certain programs that are not installed in my VMware.

Name:	/img_macwd.E01/vol_vol8/$CarvedFiles/1/f0007714.pcx
Type:	Carved
MIME Type:	image/vnd.zbrush.pcx



MD5:	f9c1073cac7414989855e3db4b3aa464
Modified:	0000-00-00 00:00:00

As we can observe that the flower image is deleted so modified date and time is 0.

This flower image is basically deleted by Bob accidently so can't be accessed by anyone but deleted files are still stored in the disk which can help in digital forensic investigation. Plus, image is in pcx format which cannot be accessed without certain programs.