

**NAME: SUYASH SHINDE**

**ROLL NO: D2223034**

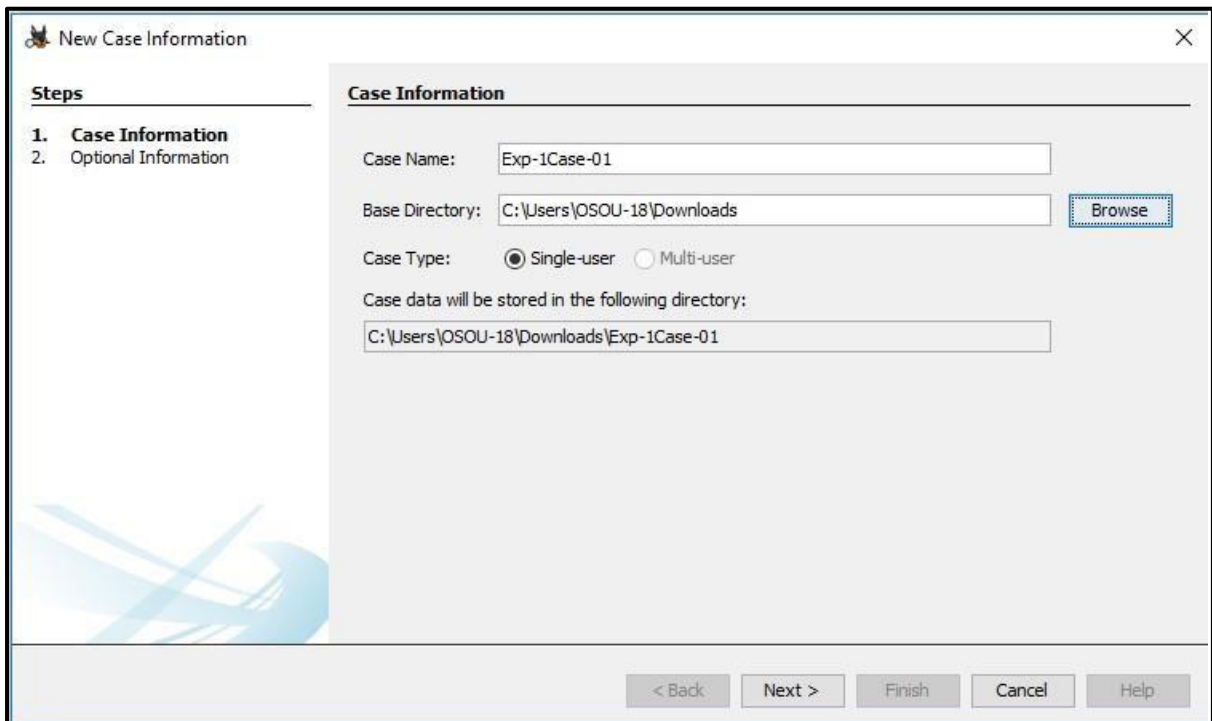
**CLASS: CSF 2**

**SUBJECT: CFEL**

### **EXPERIMENT 1**

**Aim:** Study of Computer Forensics and different tools used for forensic investigation.

#### **SCREENSHOTS:**



New Case Information

Steps

1. Case Information

2. Optional Information

Optional Information

Case

Number: 1

Examiner

Name: Aseem Patel

Phone:

Email:

Notes:

Organization

Organization analysis is being done for:

Manage Organizations

< Back

Next >

Finish

Cancel

Help

BackTrack2

CAINE (Computer Aided Investigative Environment) - GUI Forensics Interface

DEFT (Digital Evidence & Forensic Toolkit) - Xubuntu based

FCCU Gnu/Linux Forensic Boot CD (knoppix)

Forensic and Incident Response Environment (FIRE)

Helix (knoppix)

Knoplix STD

Local Area Security Linux

Penguin Sleuth Kit (knoppix)

Network Security Toolkit (NST)

Plan-B

Snarl (FreeBSD)

HeX (FreeBSD)

StagOS FSE (Ubuntu based)

IRItaly Live CD Project (Gentoo based)

ForEx Live CD - Forensic Linux Examination (Debian based)

Tools Using TSK or Autopsy

Contents [hide]

1 Bootable CDs with The Sleuth Kit & Autopsy

2 Tools that Integrate The Sleuth Kit

3 Add-ons / Patches for The Sleuth Kit and Autopsy

4 Sleuth Kit Packages

5 Autopsy Packages

Bootable CDs with The Sleuth Kit & Autopsy

(in alphabetical order)

BackTrack2

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Tools that Integrate The Sleuth Kit

(in alphabetical order)

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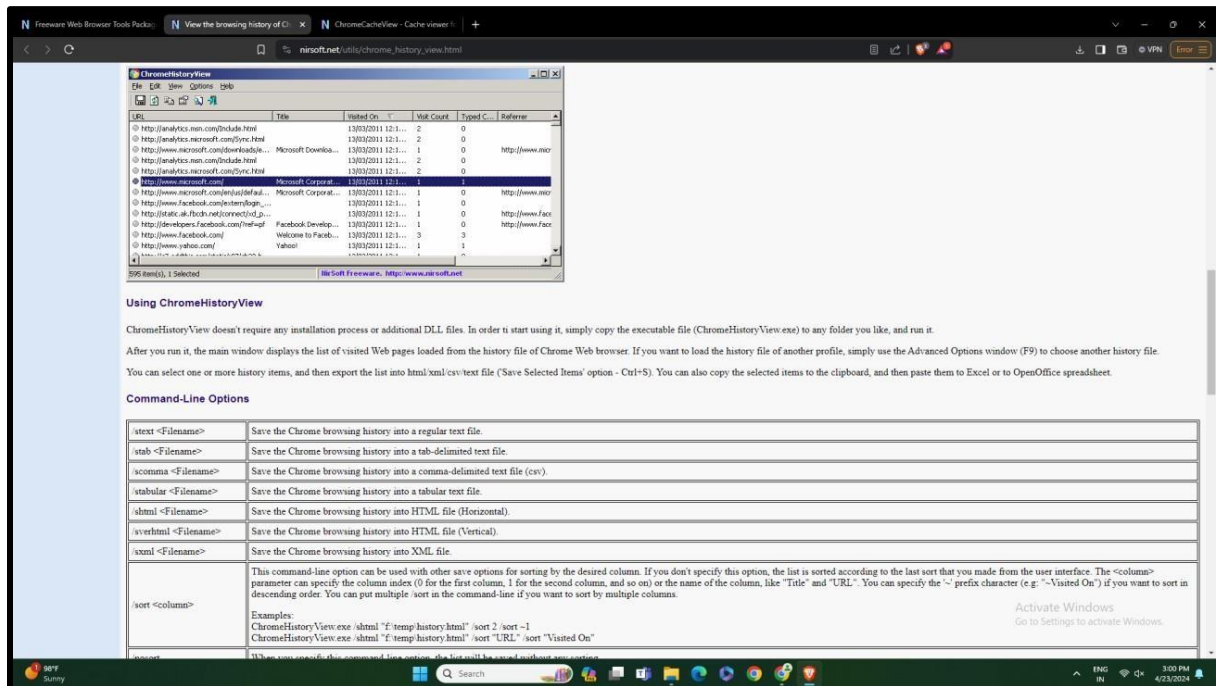
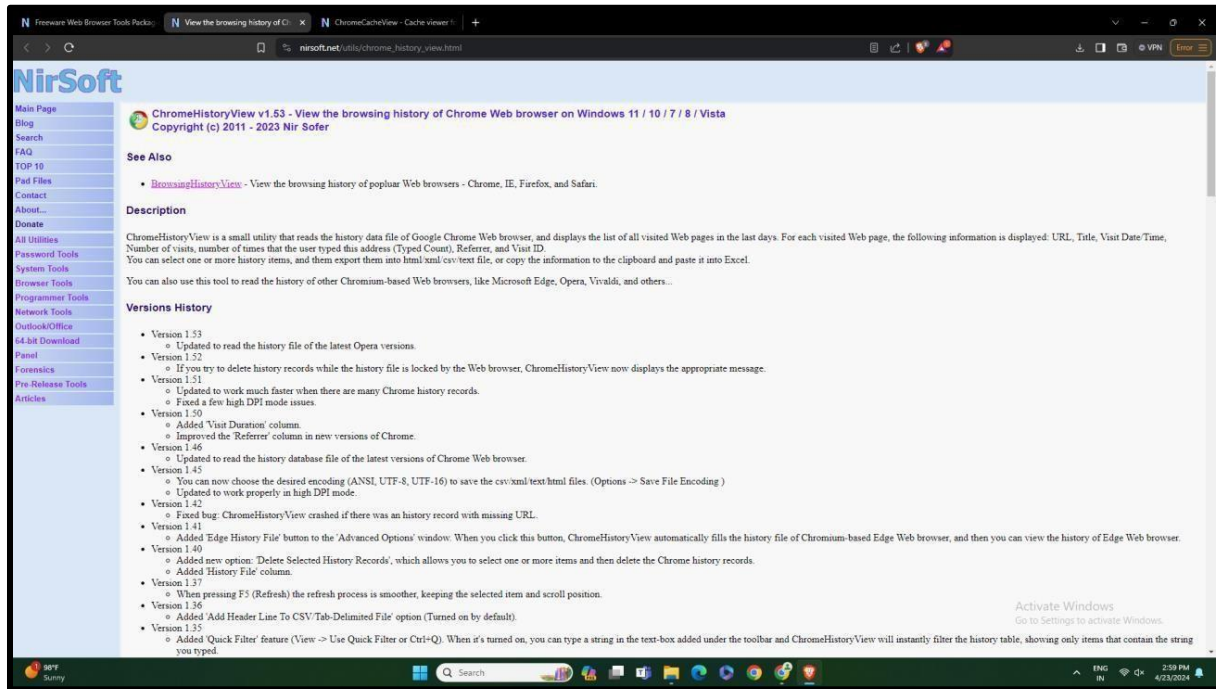
ROLL NO: D2223034

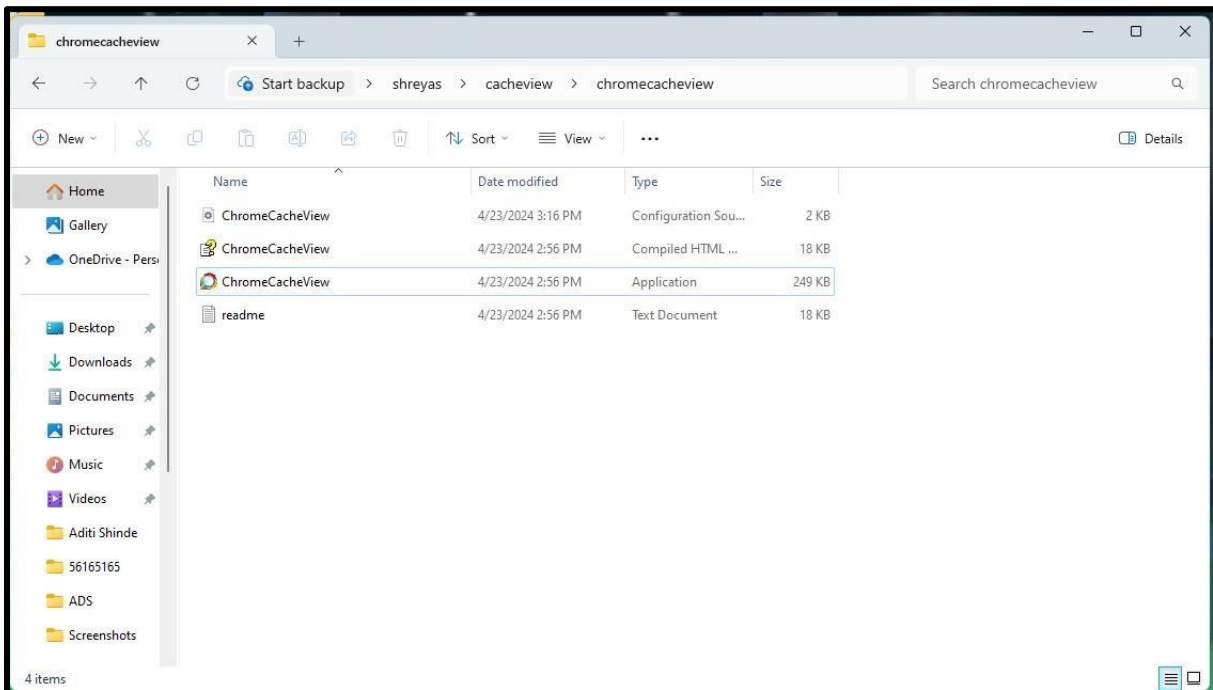
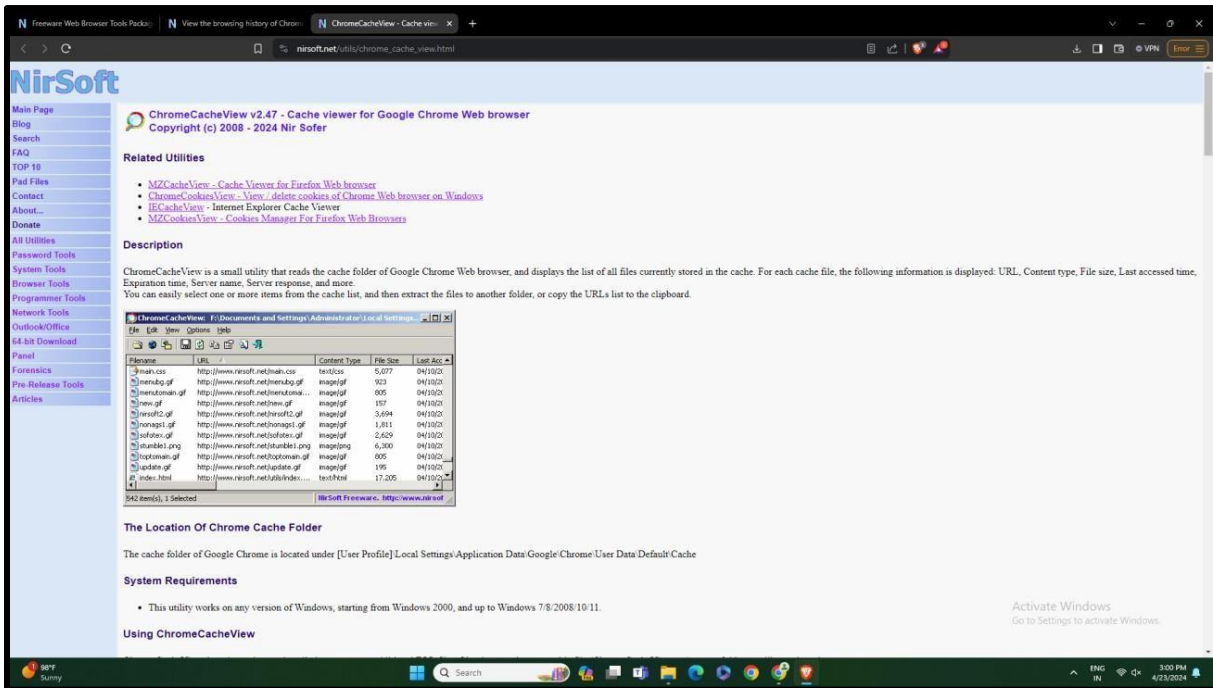
CLASS: CSF 2

## EXPERIMENT 11

Aim: - Using Sysinternals tools for Network Tracking and Process Monitoring:

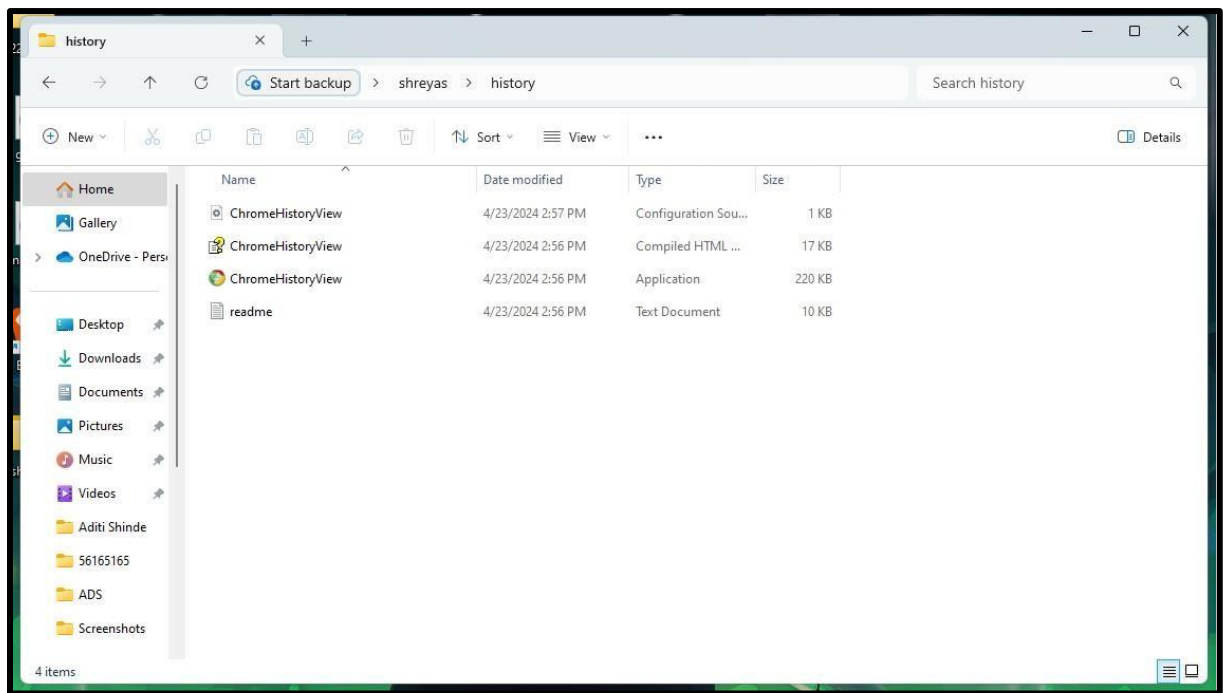
### SCREENSHOTS:











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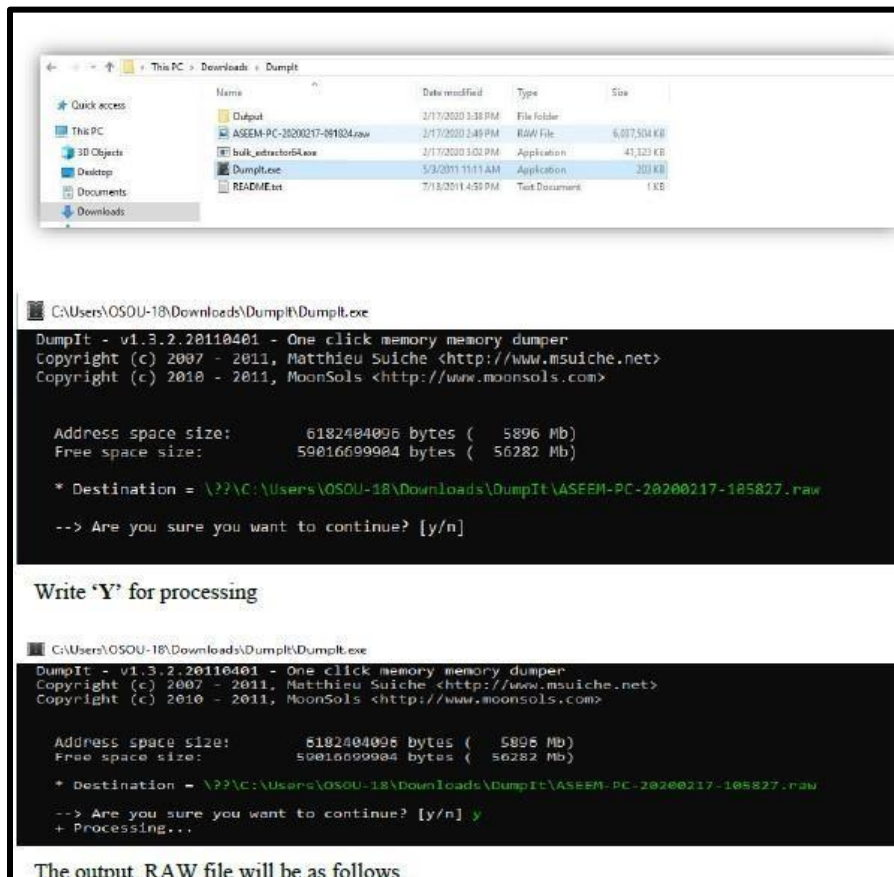
CLASS: CSF 2

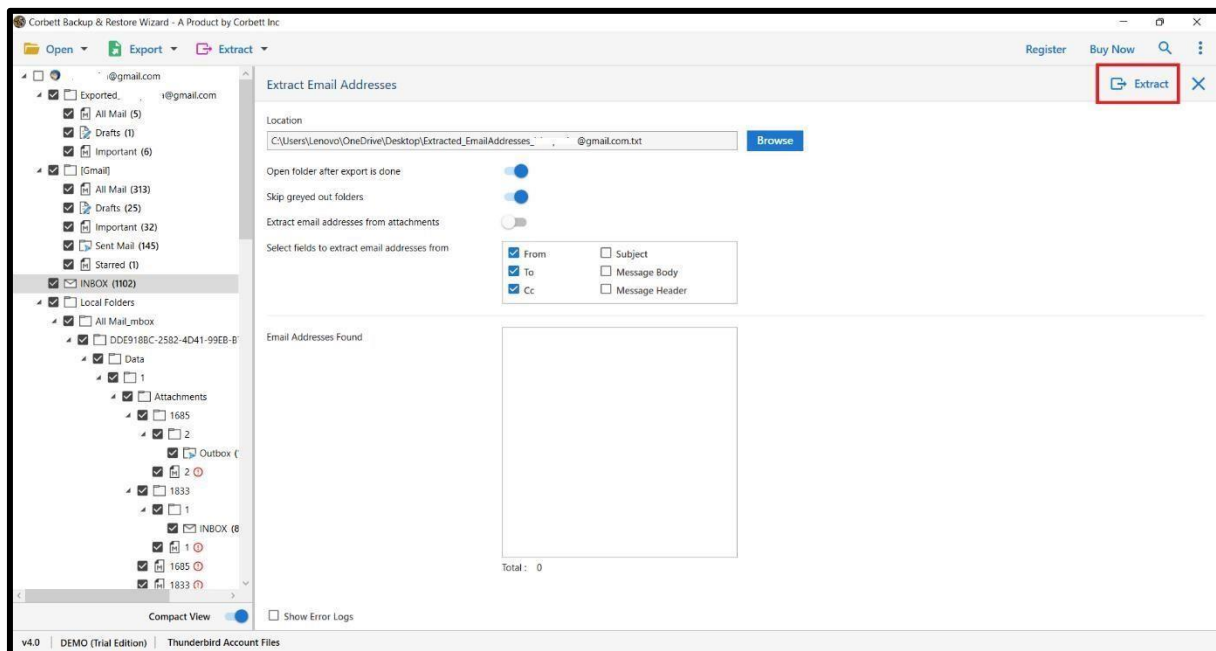
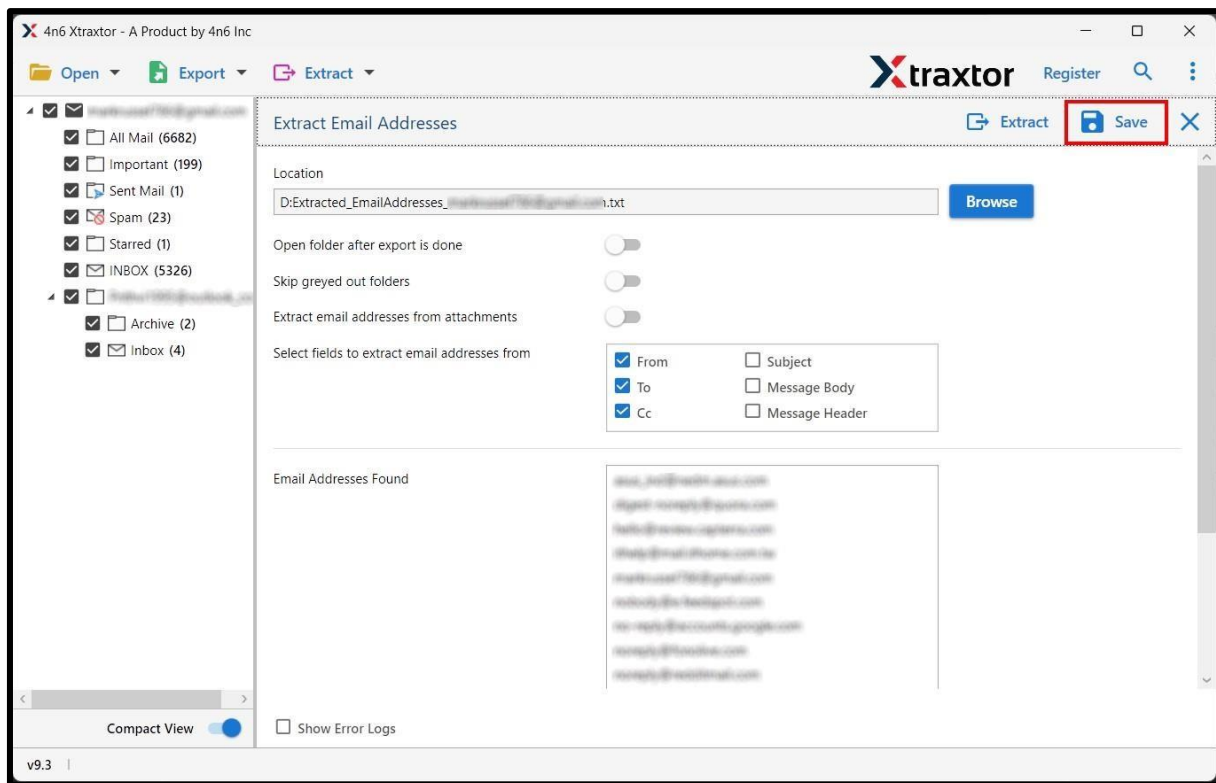
SUBJECT: CFEL

### EXPERIMENT 13

**Aim of the Experiment:** Email Forensics

**SCREENSHOTS:**









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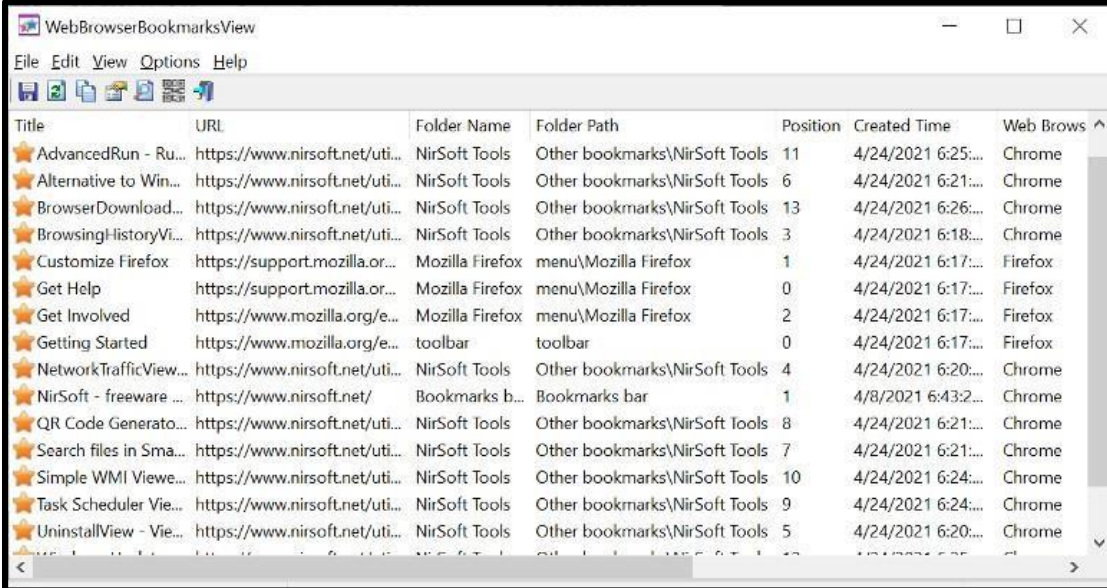
**CLASS: CSF 2**

**SUBJECT: CFEL**

## **EXPERIMENT 14**

**AIM: Web Browser Forensics**

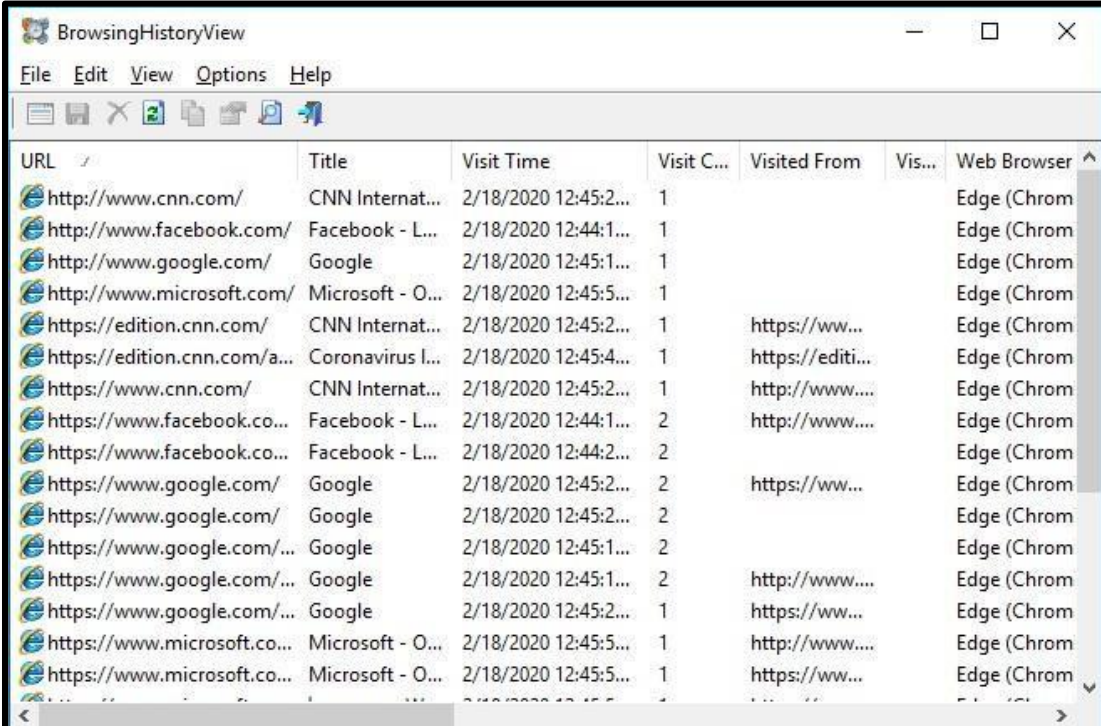
### **SCREENSHOTS:**



WebBrowserBookmarksView

File Edit View Options Help

Title	URL	Folder Name	Folder Path	Position	Created Time	Web Brows
AdvancedRun - Ru...	https://www.nirsoft.net/uti...	NirSoft Tools	Other bookmarks\NirSoft Tools	11	4/24/2021 6:25:...	Chrome
Alternative to Win...	https://www.nirsoft.net/uti...	NirSoft Tools	Other bookmarks\NirSoft Tools	6	4/24/2021 6:21:...	Chrome
BrowserDownload...	https://www.nirsoft.net/uti...	NirSoft Tools	Other bookmarks\NirSoft Tools	13	4/24/2021 6:26:...	Chrome
BrowsingHistoryVi...	https://www.nirsoft.net/uti...	NirSoft Tools	Other bookmarks\NirSoft Tools	3	4/24/2021 6:18:...	Chrome
Customize Firefox	https://support.mozilla.or...	Mozilla Firefox	menu\Mozilla Firefox	1	4/24/2021 6:17:...	Firefox
Get Help	https://support.mozilla.or...	Mozilla Firefox	menu\Mozilla Firefox	0	4/24/2021 6:17:...	Firefox
Get Involved	https://www.mozilla.org/e...	Mozilla Firefox	menu\Mozilla Firefox	2	4/24/2021 6:17:...	Firefox
Getting Started	https://www.mozilla.org/e...	toolbar	toolbar	0	4/24/2021 6:17:...	Firefox
NetworkTrafficView...	https://www.nirsoft.net/uti...	NirSoft Tools	Other bookmarks\NirSoft Tools	4	4/24/2021 6:20:...	Chrome
NirSoft - freeware ...	https://www.nirsoft.net/	Bookmarks b...	Bookmarks bar	1	4/8/2021 6:43:2...	Chrome
QR Code Generato...	https://www.nirsoft.net/uti...	NirSoft Tools	Other bookmarks\NirSoft Tools	8	4/24/2021 6:21:...	Chrome
Search files in Sma...	https://www.nirsoft.net/uti...	NirSoft Tools	Other bookmarks\NirSoft Tools	7	4/24/2021 6:21:...	Chrome
Simple WMI Viewe...	https://www.nirsoft.net/uti...	NirSoft Tools	Other bookmarks\NirSoft Tools	10	4/24/2021 6:24:...	Chrome
Task Scheduler Vie...	https://www.nirsoft.net/uti...	NirSoft Tools	Other bookmarks\NirSoft Tools	9	4/24/2021 6:24:...	Chrome
UninstalView - Vie...	https://www.nirsoft.net/uti...	NirSoft Tools	Other bookmarks\NirSoft Tools	5	4/24/2021 6:20:...	Chrome



BrowsingHistoryView

File Edit View Options Help

URL	Title	Visit Time	Visit C...	Visited From	Vis...	Web Browser
http://www.cnn.com/	CNN Internat...	2/18/2020 12:45:2...	1			Edge (Chrom
http://www.facebook.com/	Facebook - L...	2/18/2020 12:44:1...	1			Edge (Chrom
http://www.google.com/	Google	2/18/2020 12:45:1...	1			Edge (Chrom
http://www.microsoft.com/	Microsoft - O...	2/18/2020 12:45:5...	1			Edge (Chrom
https://edition.cnn.com/	CNN Internat...	2/18/2020 12:45:2...	1	https://ww...		Edge (Chrom
https://edition.cnn.com/a...	Coronavirus l...	2/18/2020 12:45:4...	1	https://editi...		Edge (Chrom
https://www.cnn.com/	CNN Internat...	2/18/2020 12:45:2...	1	http://www....		Edge (Chrom
https://www.facebook.co...	Facebook - L...	2/18/2020 12:44:1...	2	http://www....		Edge (Chrom
https://www.facebook.co...	Facebook - L...	2/18/2020 12:44:2...	2			Edge (Chrom
https://www.google.com/	Google	2/18/2020 12:45:2...	2	https://ww...		Edge (Chrom
https://www.google.com/	Google	2/18/2020 12:45:2...	2			Edge (Chrom
https://www.google.com/...	Google	2/18/2020 12:45:1...	2	http://www....		Edge (Chrom
https://www.google.com/...	Google	2/18/2020 12:45:2...	1	https://ww...		Edge (Chrom
https://www.microsoft.co...	Microsoft - O...	2/18/2020 12:45:5...	1	http://www....		Edge (Chrom
https://www.microsoft.co...	Microsoft - O...	2/18/2020 12:45:5...	1	https://ww...		Edge (Chrom

ChromeCacheView: F:\Documents and Settings\Administrator\Local Settings...

File Edit View Options Help

Filename	URL	Content Type	File Size	Last Acc
main.css	http://www.nirsoft.net/main.css	text/css	5,077	04/10/20
menubg.gif	http://www.nirsoft.net/menubg.gif	image/gif	923	04/10/20
menutomain.gif	http://www.nirsoft.net/menutomai...	image/gif	805	04/10/20
new.gif	http://www.nirsoft.net/new.gif	image/gif	157	04/10/20
nirsoft2.gif	http://www.nirsoft.net/nirsoft2.gif	image/gif	3,694	04/10/20
nonags1.gif	http://www.nirsoft.net/nonags1.gif	image/gif	1,811	04/10/20
sofotex.gif	http://www.nirsoft.net/sofotex.gif	image/gif	2,629	04/10/20
stumble1.png	http://www.nirsoft.net/stumble1.png	image/png	6,300	04/10/20
toptomain.gif	http://www.nirsoft.net/toptomain.gif	image/gif	805	04/10/20
update.gif	http://www.nirsoft.net/update.gif	image/gif	195	04/10/20
index.html	http://www.nirsoft.net/utis/index....	text/html	17,205	04/10/20

WebCookiesSniffer

File Edit View Options Help

Host Name	Request Path	Total Length	Cookies Co...	Cookies String
www.google.com	/	243	2	PREF=ID=b54f09...
us.bc.yahoo.com	/b?P=7gK9O03uv0bA...	616	8	B=c0f448h5ju50t...
www.yahoo.com	/p.gif;_ylp=A03uvzF...	1,782	14	B=c0f448h5ju50t...
www.yahoo.com	/	914	11	B=c0f448h5ju50t...
mail.yahoo.com	/ult=A0356Qa07shT...	616	8	B=c0f448h5ju50t...

Name	Value	Index
B	c0f448h5ju50t&b=4&d=IFJpf8B...	0
CH	AgBOgX4QAA4kEAAxCRAADnM...	9
F	a=fzbbTNcMvTOMIPQIJ3NY0t8Y...	1
fpc	d=yRen7og7UZaPiGdUE8FQTdm...	7
FPCK2	AgBOgX4QAFp9EAALLBAAVcEQ...	10
FPCK3	AgBOgX4QAFPcEAB+yxAAb18Q...	8
FPS	dl	4
PH	fn=1IZgJIU.9eZwsRjZbVo-&j=en-...	5
T	z=19ZOLB1BRWLBRSvIHfmzn/NiY...	6

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## **EXPERIMENT 16**

AIM: Case Study: Cyber law

### **Forensic Analysis of Broken and Damaged Mobile Phone – A Crime Case Study**

Abstract:

Forensic labs often encounter damaged mobile devices, either intentionally tampered with to destroy evidence or accidentally exposed to harm. While the chip-off technique is effective for data retrieval, modern mobiles' full disk or file-based encryption complicates this method. However, if encryption is hardware-based, restoring the device to its original state enables successful decryption, allowing access to user data for investigation. This paper presents a case study of recovering data from a severely damaged mobile phone by diagnosing and replacing its PCB, facilitating decryption and data retrieval. Keywords: Full Disk Encryption, File Based Encryption, Decryption, PCB, damaged mobile phone, UFED Touch 2, Physical Analyzer, forensic repair toolkit.

#### **I. INTRODUCTION**

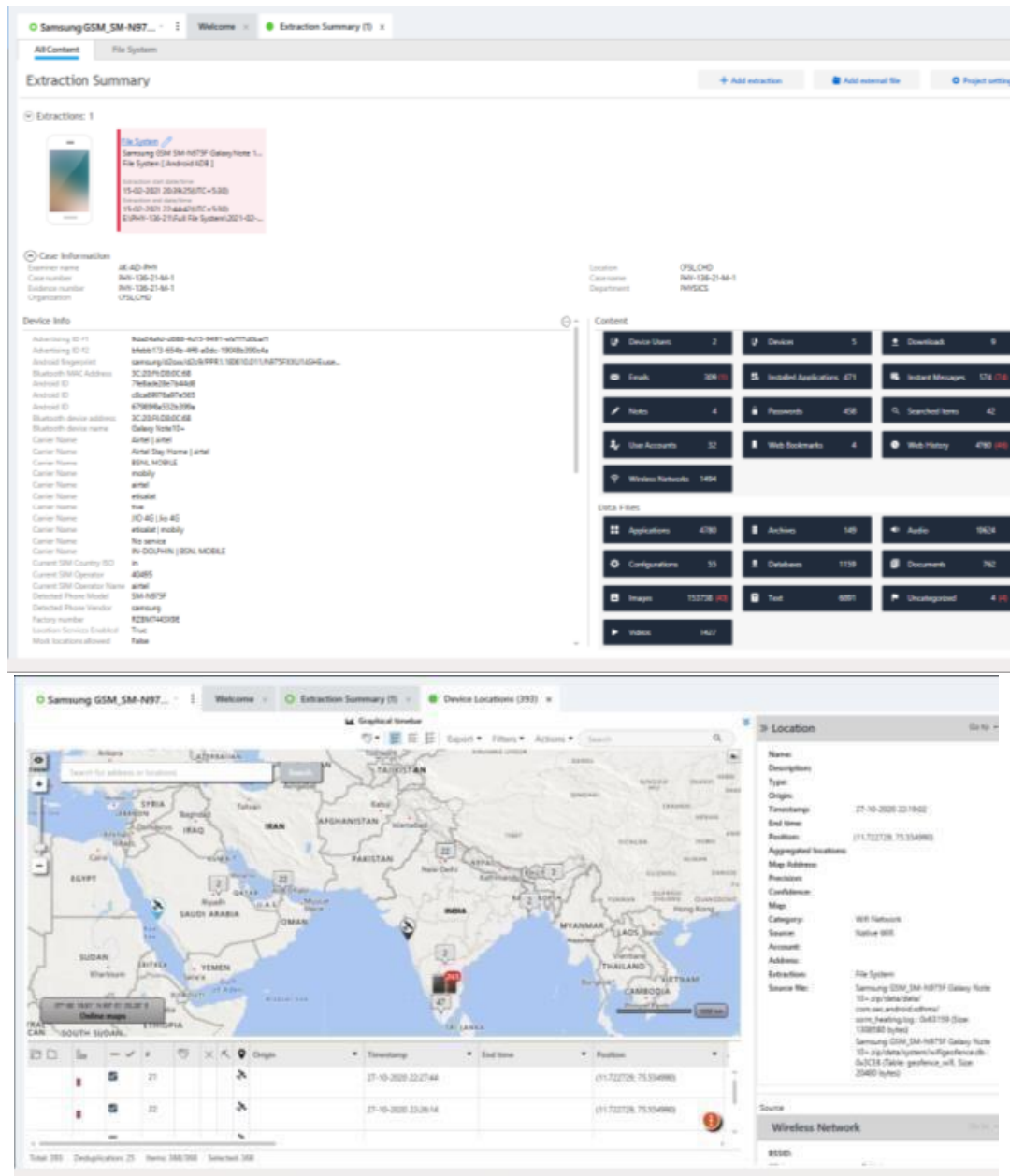
Today's world is an era of accelerated technological progress characterized by new innovations whose rapid application and diffusion typically cause an abrupt change in society. The evolution of computer, mobile, networks, the devices that run on them and their everyday services occur at an amazing rate. It is unthinkable to consider our lives without mobile phones. Mobile phones have been one of the most successful technologies ever invented and adopted in the ever-developing world. Apart from making everyday life easy, mobile phones, computers and internet are most common weapons used by criminals to commit heinous crimes (McSweeney, 2020). These weapons are commonly collected evidences in cybercrimes that are examined by investigators. Sometimes criminals intentionally damage their mobile phones and computers to destroy the evidence. Therefore, it's becoming more challenging for an investigator/ examiner to extract data from the evidences (Dongan & Akbal, 2017).

#### **I III. RESULTS AND DISCUSSION**

The extracted data comprised of contacts, call logs, messages, multimedia artifacts (images, videos, documents, etc.), internet browsing history and application data of social media accounts including WhatsApp, Facebook, Telegram, etc. (Fig. 7). This entire data was provided to the case forwarding authority along with a hard-copy report.



The device once opened with the pattern provided by the forwarding authority, it was immediately kept on airplane mode. Furthermore, USB debugging was enabled and other necessary settings to enter the extraction mode were followed.





## I. CONCLUSION

In the beginning of the case, the forwarding authorities were stumped by the ingenious planning of the smugglers who had left no clues behind that could directly connect them to the crime. The suspects had already managed to destroy any implicating evidence of the crime and had even tried to destroy their mobile devices. However, the innovative and industrious efforts of the scientific officers of the case enabled a complete restoration of the mobile device. The forwarding authority's invaluable support by providing the password and an intricate work in repairing the device by the scientific officer led to the successful solution of the case. This helped the authorities to convict the suspects and provided corroborative evidence of the crime.