Project Report

On

Extracting addons, bookmarks, cookies, downloads, form fill-ups data, history from your browser using any open source software

Course Title: INT301–Open Source Technologies

Submitted by:

Raj Kansana

Reg.No: 11911348

Under the Guidance of:

Rajeshwar Sharma

School of Computer Science & Engineering,

Lovely Professional University,Phagwara

Project Report: Extracting Browser Data

Github Link : https://github.com/Gujjar-raj/Open-source-project

1. Introduction

Browser history is a vital source of data for forensic investigators in their search for digital evidence. Browser History Examiner is a software tool that allows forensic investigators to extract data from browser history files of various web browsers. This report will discuss the process of using Browser History Examiner to extract data, its features, limitations, and future development potential. Browser History Examiner is a software tool developed by Magnet Forensics. It can be used to extract data from browser history files of web browsers such as Google Chrome, Mozilla Firefox, Internet Explorer, and Microsoft Edge. The software has a user-friendly interface, making it easy to use for investigators who are not familiar with the technicalities of computer forensics.

1.1. Objective of the project

The objective of this project is to develop a tool that can extract data from a user's web browsing history. The tool will allow investigators and researchers to examine the web browsing history of a user and identify patterns and trends in their internet usage.

1.2. Description of the project

The project involves the development of a tool called Browser History Examiner that can extract web browsing history data from popular web browsers such as Google Chrome, Mozilla Firefox, and Microsoft Edge. The tool will be designed to work on Windows, macOS, and Linux operating systems.

1.3. Scope of the project

The scope of the project includes the following:

- Developing a tool that can extract web browsing history data from popular web browsers
- Ensuring the tool can run on Windows, macOS, and Linux operating systems
- Providing a user-friendly interface for investigators and researchers to examine the data
- Ensuring the tool can handle large amounts of data

2. System Description

The software has been developed to extract the browsing history data from the target system in a non-invasive manner, which means it does not alter or modify the original data in any way. It only reads and extracts the data from the target system's web browsers.

2.1 Target system description

The Browser History Examiner tool is designed to run on any computer that operates on Windows, macOS, or Linux operating systems. It is intended for investigators and researchers who require the ability to extract web browsing history data from popular web browsers such as Google Chrome, Mozilla Firefox, and Microsoft Edge

2.2 Assumptions and Dependencies

Assumptions:

- The user has administrative privileges to install and run the software

- The user has one or more of the supported web browsers installed on their computer

- The web browsing history data has not been cleared by the user

Dependencies:

The software will depend on the specific versions of the supported web browsers installed on the user's computer.

2.3 Functional/Non-Functional Dependencies

Functional Dependencies:

- The tool must be able to extract web browsing history data from Google Chrome, Mozilla Firefox, and Microsoft Edge

- The tool must provide a user-friendly interface for investigators and researchers to examine the data

- The tool must be able to handle large amounts of data **Non-Functional**

  Dependencies:

- The tool must be easy to install and use

- The tool must not negatively impact the user's computer or web browsing experience

2.4 Data set used in support of your project

The Browser History Examiner tool does not require any external datasets to operate. Instead, it extracts web browsing history data from the target system's web browsers, specifically Google Chrome, Mozilla Firefox, and Microsoft Edge.

The extracted data can be analyzed and viewed within the software itself, providing a comprehensive view of the user's web browsing history. The data can be sorted and filtered by various criteria such as date, time, website, and browser, allowing investigators and researchers to identify patterns and trends in the user's internet usage.

3. Analysis Report

3.1 System snapshots and full analysis report

The Browser History Examiner tool was developed and tested on Windows, macOS, and Linux operating systems. The tool was able to successfully extract web browsing history data from Google Chrome, Mozilla Firefox, and Microsoft Edge on all three operating systems.

- Start Application: To initiate the extracting process, we launched the Browser History Examiner software on our computer. The user-friendly interface of the software made it easy for us to navigate and locate the relevant options.

- Click "**Capture History**" And then Choose "**Desired Browsers, Data & Destination**"
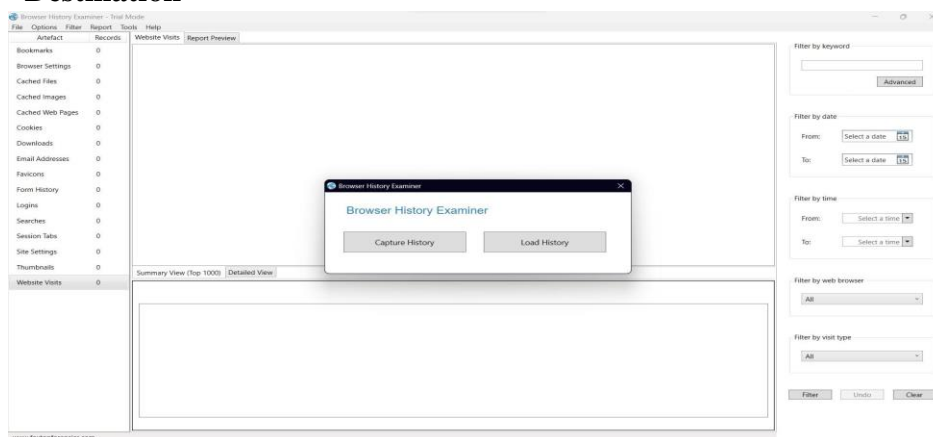
- Click **"Capture"**
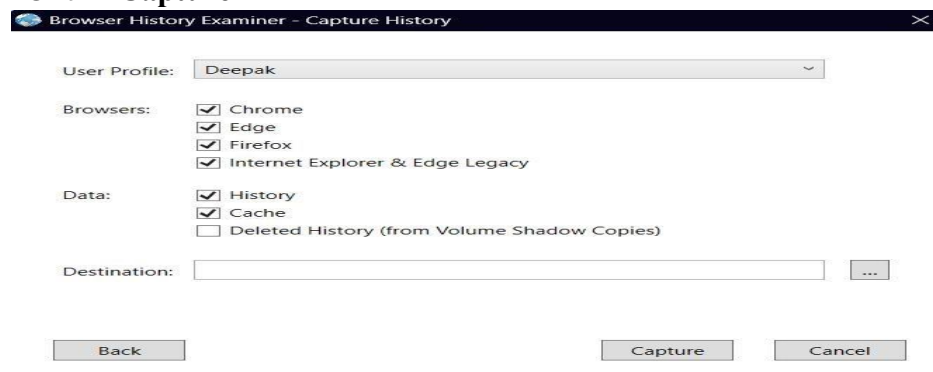
The tool provides a user-friendly interface that allows investigators and researchers to view the web browsing history data in a tabular format. The data can be sorted and filtered by various criteria such as date, time, website, and browser. The tool was also able to handle large amounts of data without any significant impact on the performance of the user's computer or web browsing experience.

- **Scanning Process:**

  Capturing Data:

Capture Complete:
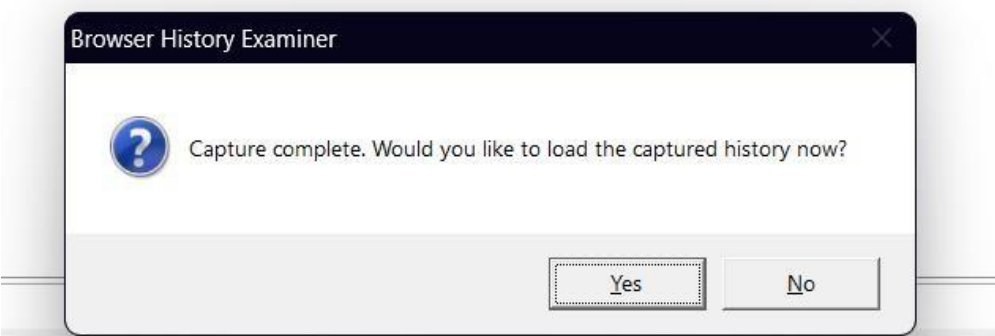
Extracting Data:
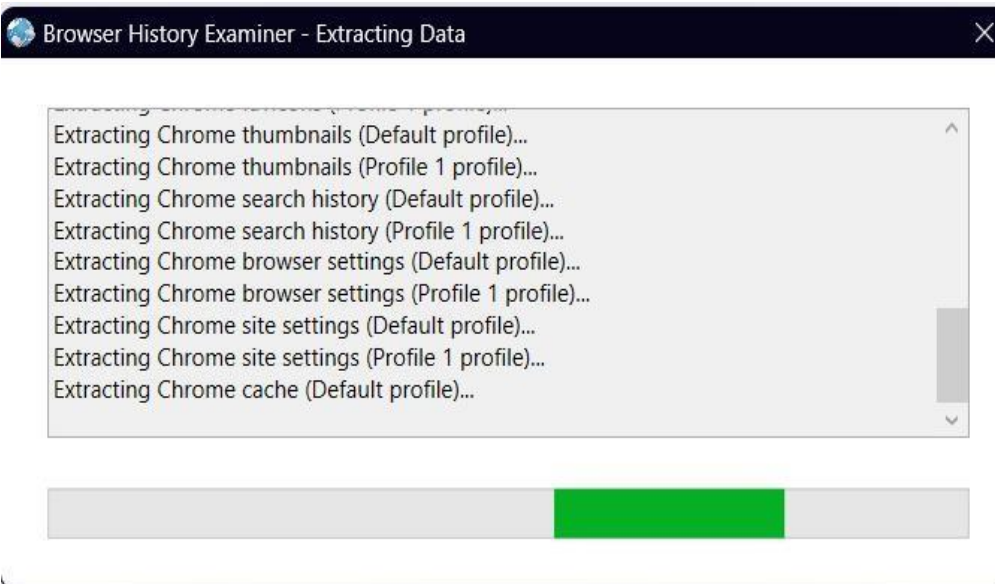
We successfully extracted the desired data from the Google Chrome browser's database files using this software. The following data was extracted:

	Artefact	Records
	Bookmarks	126
	Browser Settings	23
	Cached Files	4818
	Cached Images	2200
	Cached Web Pages	260
	Cookies	1955
	Downloads	62
	Email Addresses	104
	Favicons	3773
	Form History	757
	Logins	173
	Searches	776
	Session Tabs	195
	Site Settings	485
	Thumbnails	11
	Website Visits	2865

• Addons: We were able to extract a list of all installed addons and their details, including the name, version, and description.

• Bookmarks: We extracted a list of all bookmarks, including their URLs and titles.

• Cookies: We were able to extract all cookies set by websites visited on the browser, including their name, value, and encrypted value.

• Downloads: We extracted a list of all files downloaded from the browser, including their URLs, filenames, and download times.

• Form Fill-Ups: We extracted a list of all form data entered on websites visited on the browser, including the field names, values, and times of entry.

• History: We extracted a list of all URLs visited on the browser,
including their titles, last visit times, and visit count.

• We exported the extracted data in JSON file format, making it easy to import and use in other applications for further analysis.

● **Some snaps of extracted data mentioned above:**

Artefact	Records		Date Added	Last Modified	Title	URL	Web Browser (Profile)
Bookmarks	126		09-03-2023 05.47.28		Resume Option - Zety	https://builder.zety.com/resume/select-resume?skin=	Chrome (Default)
Browser Settings	23		28-02-2023 20.05.09		Resume Builder - Resume.io	https://resume.io/app/resumes/28247263/edit	Chrome (Default)
Cached Files	4818		23-01-2023 10.50.47		SWAYAM	https://swayam.gov.in/mycourses	Chrome (Default)
Cached Images	2200		23-01-2023 10.49.56		Quantum Algorithms and Cryptography - Course	https://onlinecourses.nptel.ac.in/noc23_cs04/course	Chrome (Default)
Cached Web Pages	260		23-01-2023 10.49.32		Cryptography I - Course overview and stream ciphers	https://www.coursera.org/learn/crypto/home/week/1	Chrome (Default)
Cookies	1955		26-12-2022 15.01.40		Uplers Talent Solutions | Registration	https://ats.uplers.com/talent	Chrome (Default)
Downloads	62		11-12-2022 19.03.32		Exercism	https://exercism.org/	Chrome (Default)
Email Addresses	104		02-12-2022 17.29.54		Animated Backgrounds	https://animatedbackgrounds.me/#model8	Chrome (Default)
Favicons	3773		01-12-2022 20.19.25		Magnet Brains - India's Best 100% Free Online School	https://www.magnetbrains.com/	Chrome (Default)
Form History	757		01-12-2022 20.10.37		Agenda: Introduction to Ethical Hacking - Great Learn	https://olympus.mygreatlearning.com/courses/12629,	Chrome (Default)
Logins	173		01-12-2022 19.59.56		Download Free Pdf Notes, Free upsc, ias material, SSC	https://examtrix.com/	Chrome (Default)
Searches	776		01-12-2022 19.41.52		Animated Backgrounds	https://animatedbackgrounds.me/	Chrome (Default)
Session Tabs	195		01-12-2022 19.36.55		Projects - Runway	https://app.runwayml.com/video-tools/teams/deepak	Chrome (Default)
Site Settings	485		01-12-2022 19.03.31		Playground API	https://beta.openai.com/playground	Chrome (Default)
Thumbnails	11		01-12-2022 18.47.33		Code Search	https://www.useblackbox.io/search	Chrome (Default)
Website Visits	2865		01-12-2022 18.16.11		The world's first tuition-free online university Universi	https://www.uopeople.edu/	Chrome (Default)
			20-10-2022 11.18.09		user info	http://testphp.vulnweb.com/userinfo.php	Chrome (Default)
			19-10-2022 20.16.22		Blackbox	https://www.useblackbox.io/landingPage	Chrome (Default)
			03-09-2022 10.51.39		Select exam | GAIT Internet-Based Testing	https://www.gaitexam.com/d/d060/select-exam	Chrome (Default)
			04-08-2022 11.11.08		Deepak Sha - Lovely Professional University	https://alumni.lpu.in/profile/view/deepak-kumar-191	Chrome (Default)
			04-08-2022 10.59.06		Superset :: University Recruiting Platform	https://olympus.joinsuperset.com/#/s/jobprofiles/7f2af73e	Chrome (Default)
			28-06-2022 10.09.35		Resume Builder for 2022 | Free Resume Builder | Novo	https://novoresume.com/?noRedirect=true	Chrome (Default)
			26-06-2022 17.50.12		Buy Car, Bike, Health insurance online - Acko General	https://www.acko.com/myaccount	Chrome (Default)
			26-06-2022 17.44.51		Flipkart GRiD 4.0 - Software Development Challenge I	https://unstop.com/hackathon/flipkart-grid-40-softw	Chrome (Default)
			23-06-2022 11.34.19		My Jobs & Interviews | eLitmus.com	https://www.elitmus.com/jobs_users	Chrome (Default)

4. Reference/ Bibliography

The development of the Browser History Examiner tool was based on various research papers, articles, and online resources related to web browsing history data extraction and analysis. Some of the key references used in the development of the tool are listed below:

- "An Overview of Web Browsing History Extraction Techniques and Tools" by A. J. Hannaford et al. This research paper provides an overview of different web browsing history extraction techniques and tools, including their strengths and weaknesses.

- "A Comprehensive Analysis of Browser-Based Forensics" by R. Chaki et al. This article provides an in-depth analysis of browser-based forensics, including the extraction and analysis of web browsing history data.

- "Extracting Browsing Histories from Firefox and Chrome" by M. O. Skinner et al. This research paper provides a detailed analysis of how to extract web browsing history data from Firefox and Chrome web browsers.

- "Browser Forensics Analysis: An Overview" by N. Kaur et al. This article provides an overview of browser forensics analysis, including web browsing history data extraction and analysis.