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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

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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.

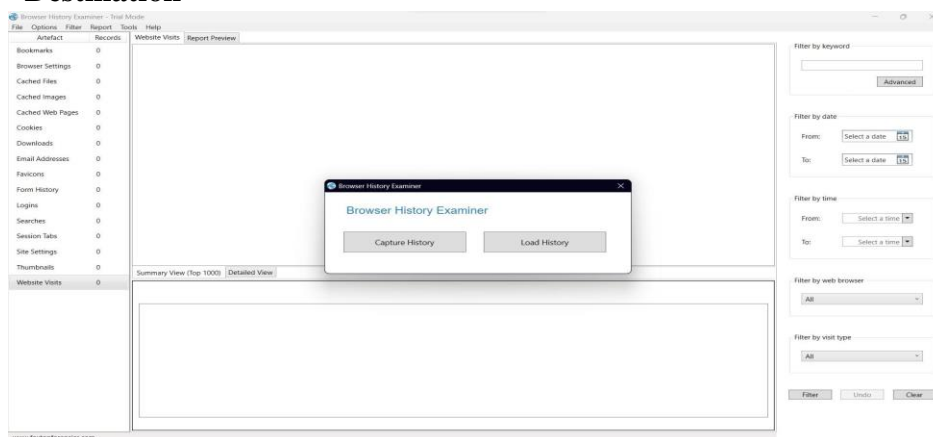
The extracted data can be analyzed and viewed within the software itself, providing a comprehensive view of the user's web browsing history. The data can be sorted and filtered by various criteria such as date, time, website, and browser, allowing investigators and researchers to identify patterns and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

3. Analysis Report

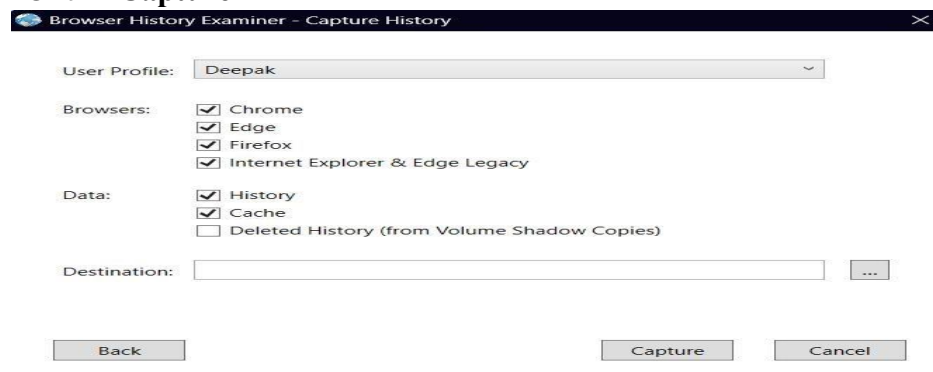
3.1 System snapshots and full analysis report

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”**



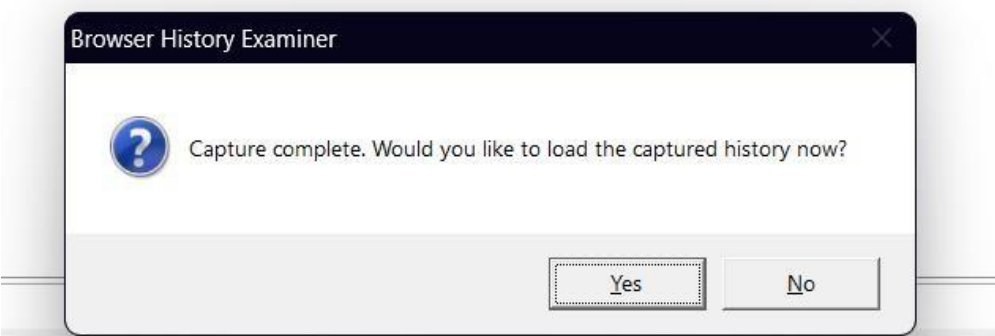
The tool provides a user-friendly interface that allows investigators and researchers to view the web browsing history data in a tabular format. The data can be sorted and filtered by various criteria such as date, time, website, and browser. The tool was also able to handle large amounts of data without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

- **Scanning Process:**

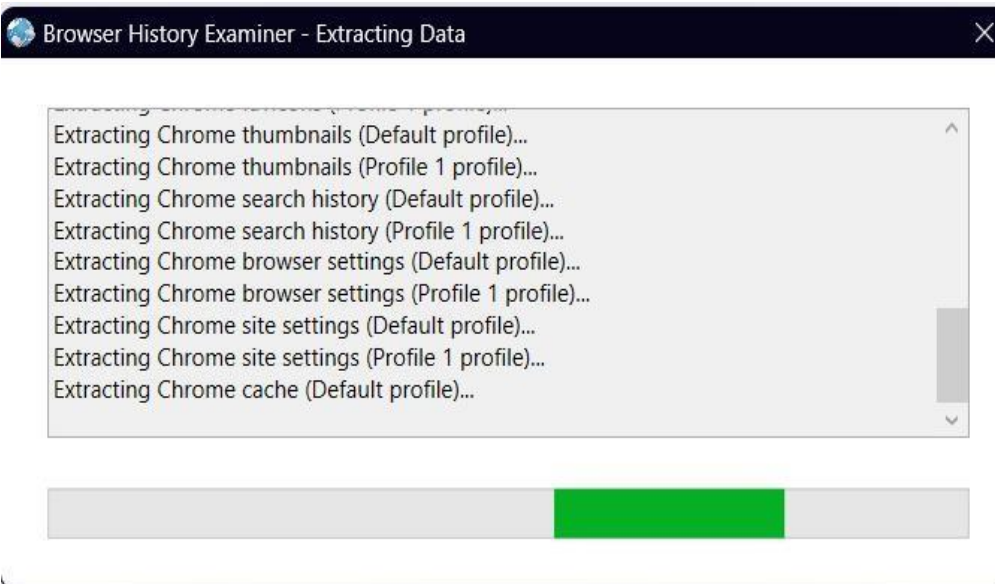
Capturing Data:



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	Bookmarks	Report Preview			
Bookmarks	126					
		Date Added	Last Modified	Title	URL	Web Browser (Profile)
Brower Settings	23		09-03-2023 05.47.28	Resume Option - Zety	https://builder.zety.com/resume/select-resume?skin=	Chrome (Default)
			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)
			23-01-2023 10.49.56	Quantum Algorithms and Cryptography - Course	https://onlinecourses.nptel.ac.in/noc23_cs04/course	Chrome (Default)
Cached Images	2200		23-01-2023 10.49.32	Cryptography I - Course overview and stream ciphers	https://www.coursera.org/learn/crypto/home/week/1	Chrome (Default)
			26-12-2022 15.01.40	Uplers Talent Solutions Registration	https://ats.uplers.com/talent	Chrome (Default)
Cached Web Pages	260		11-12-2022 19.03.32	Exercism	https://exercism.org/	Chrome (Default)
			02-12-2022 17.29.54	Animated Backgrounds	https://animatedbackgrounds.me/#model8	Chrome (Default)
Cookies	1955		01-12-2022 20.19.25	Magnet Brains - India's Best 100% Free Online School	https://www.magnetbrains.com/	Chrome (Default)
			01-12-2022 20.10.37	Agenda: Introduction to Ethical Hacking - Great Learn	https://olympus.mygreatlearning.com/courses/12629	Chrome (Default)
Downloads	62		01-12-2022 19.59.56	Download Free Pdf Notes, Free upsc, ias material, SSC	https://examtrix.com/	Chrome (Default)
			01-12-2022 19.41.52	Animated Backgrounds	https://animatedbackgrounds.me/	Chrome (Default)
Email Addresses	104		01-12-2022 19.36.55	Projects - Runway	https://app.runwayml.com/video-tools/teams/deepak	Chrome (Default)
Favicons	3773		01-12-2022 19.03.31	Playground API	https://beta.openai.com/playground	Chrome (Default)
			01-12-2022 18.47.33	Code Search	https://www.useblackbox.io/search	Chrome (Default)
Form History	757		01-12-2022 18.16.11	The world's first tuition-free online university Universi	https://www.uopeople.edu/	Chrome (Default)
Logins	173		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)
Searches	776		03-09-2022 10.51.39	Select exam GAIT Internet-Based Testing	https://www.gaitexam.com/d/d060/select-exam	Chrome (Default)
Session Tabs	195		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://app.joinsuperset.com/#/s/jobprofiles/712af734	Chrome (Default)
Site Settings	485		28-06-2022 10.09.30	Resume Builder for 2022 Free Resume Builder Novc	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)
Thumbnails	11		26-06-2022 17.44.51	Flipkart GRID 4.0 - Software Development Challenge I	https://unstop.com/hackathon/flipkart-grid-40-softw	Chrome (Default)
Website Visits	2865		23-06-2022 11.34.19	My Jobs & Interviews eLitmus.com	https://www.elitmus.com/jobs_users	Chrome (Default)

Artefact	Records	Downloads	Report Preview
Bookmarks	126	URL	Local Path State Start Time End Time Bytes Downloaded Total Bytes Web Browser (Profile)
Browser Settings	23	https://www.foxit.com/	C:\Users\Deepak\Do Complete 10-04-2023 15.01.03 10-04-2023 15.01.29 89035496 89035496 Chrome (Profile 1)
Cached Files	4818	blob:chrome-externs	C:\Users\Deepak\Do Complete 10-04-2023 13.33.13 10-04-2023 13.33.13 29022 29022 Chrome (Default)
Cached Images	2200	blob:chrome-externs	C:\Users\Deepak\Do Complete 10-04-2023 13.33.10 10-04-2023 13.33.11 296035 296035 Chrome (Default)
Cached Web Pages	260	https://osdn.net/pjn	C:\Users\Deepak\Do Complete 06-04-2023 18.49.40 06-04-2023 18.49.42 93184 93184 Chrome (Default)
Cookies	1955	https://chromedriver	C:\Users\Deepak\Do Complete 06-04-2023 17.00.18 06-04-2023 17.00.20 7127242 7127242 Chrome (Default)
Downloads	62	data:text/plain,under	C:\Users\Deepak\Do Complete 06-04-2023 16.10.40 06-04-2023 16.10.40 9 9 Chrome (Default)
Email Addresses	104	blob:chrome-externs	C:\Users\Deepak\Do Complete 06-04-2023 16.09.09 06-04-2023 16.09.09 5702 5702 Chrome (Default)
Favicons	3773	https://rs3.fugu.chat/	C:\Users\Deepak\Do Complete 03-04-2023 04.50.54 03-04-2023 04.50.54 80745 80745 Chrome (Default)
Form History	757	https://ums.lpu.in/fp	C:\Users\Deepak\Do Complete 02-04-2023 09.22.21 02-04-2023 09.22.22 37220 37220 Chrome (Default)
Logins	173	https://downloads.sl	C:\Users\Deepak\Do Complete 31-03-2023 10.39.03 31-03-2023 10.39.03 86528 86528 Chrome (Default)
Searches	776	https://rs3.fugu.chat/	C:\Users\Deepak\Do Complete 31-03-2023 10.36.19 31-03-2023 10.36.20 1400 1400 Chrome (Default)
Session Tabs	195	https://www.onlines	C:\Users\Deepak\Do Complete 29-03-2023 13.19.17 29-03-2023 13.19.17 58725 58725 Chrome (Default)
Site Settings	485	https://www.onlines	C:\Users\Deepak\Do Complete 29-03-2023 13.16.32 29-03-2023 13.16.33 107967 107967 Chrome (Default)
Thumbnails	11	blob:https://portal	C:\Users\Deepak\Do Complete 29-03-2023 01.41.42 29-03-2023 01.41.42 277341 277341 Chrome (Default)
Website Visits	2865	blob:https://portal	C:\Users\Deepak\Do Complete 28-03-2023 15.12.12 28-03-2023 15.12.12 212711 212711 Chrome (Default)
		blob:https://portal	C:\Users\Deepak\Do Complete 28-03-2023 15.09.04 28-03-2023 15.09.04 212711 212711 Chrome (Default)
		https://cryptool.soft	C:\Users\Deepak\Do Cancelled 27-03-2023 11.16.46 0 80458648 Chrome (Default)
		https://cryptool.soft	C:\Users\Deepak\Do Complete 27-03-2023 11.15.32 27-03-2023 11.18.32 80458648 80458648 Chrome (Default)
		https://cryptool.soft	C:\Users\Deepak\Do Cancelled 27-03-2023 11.15.23 0 61235752 Chrome (Default)
		https://www.cryptoc	C:\Users\Deepak\Do Cancelled 27-03-2023 11.12.32 0 212018304 Chrome (Default)
		https://github.com/r	C:\Users\Deepak\Do Complete 27-03-2023 05.25.13 27-03-2023 05.27.08 53792928 53792928 Chrome (Default)
		https://www.research	C:\Users\Deepak\Do Complete 23-03-2023 09.55.07 23-03-2023 09.55.08 263219 263219 Chrome (Default)
		https://ruflia.be/files	C:\Users\Deepak\Do Complete 23-03-2023 08.48.15 23-03-2023 08.48.39 3773195 3773195 Chrome (Default)
		https://rs3.fugu.chat/	C:\Users\Deepak\Do Complete 22-03-2023 11.17.31 22-03-2023 11.17.52 8458687 8458687 Chrome (Default)
		https://rs3.fugu.chat/	C:\Users\Deepak\Do Complete 22-03-2023 10.59.44 22-03-2023 10.59.44 1688 1688 Chrome (Default)

Artefact	Records	Form History	Report Preview
Bookmarks	126	Field Name Value First Used Calculated Domain (F Last Used Calculated Domain (L Times Used Web Browser (Profile)	
Browser Settings	23	imgText MMSXL7 07-04-2023 06.31.35 07-04-2023 06.31.35 1 Chrome (Default)	
Cached Files	4818	key initial permutation in 02-04-2023 11.16.24 tutorialspoint.com 03-04-2023 11.16.24 1 Chrome (Default)	
Cached Images	2200	text-input-ee642cda6 1111 14-02-2023 12.36.25 03-04-2023 05.57.26 coursera.org 2 Chrome (Default)	
Cached Web Pages	260	mat-input-0 DGDPS8028G 29-03-2023 01.48.53 03-04-2023 04.35.17 9 Chrome (Default)	
Cookies	1955	mat-input-1 24696852868 29-03-2023 01.48.53 03-04-2023 04.35.17 9 Chrome (Default)	
Downloads	62	fromCity Amritsar 02-04-2023 13.07.06 03-04-2023 13.07.33 makemytrip.com 2 Chrome (Default)	
Email Addresses	104	toCity Agra 02-04-2023 13.07.33 makemytrip.com 02-04-2023 13.07.33 makemytrip.com 1 Chrome (Default)	
Favicons	3773	fromCity Jalandhar, Punjab 02-04-2023 13.05.37 02-04-2023 13.05.38 2 Chrome (Default)	
Form History	757	toCity Dhochpur, Rajasthan 02-04-2023 13.05.58 02-04-2023 13.05.58 1 Chrome (Default)	
Logins	173	toCity Kanpur, Uttar Pradesh 02-04-2023 13.05.37 02-04-2023 13.05.37 1 Chrome (Default)	
Searches	776	mat-input-5 Om Prakash Sah 02-04-2023 08.27.52 eportal.incometax.gov 02-04-2023 08.27.52 eportal.incometax.gov 1 Chrome (Default)	
Session Tabs	195	imgText 76vBW 31-03-2023 11.01.09 31-03-2023 11.01.16 2 Chrome (Default)	
Site Settings	485	imgText 54WUUG 31-03-2023 10.33.55 31-03-2023 11.00.48 2 Chrome (Default)	
Thumbnails	11	imgText RUBQTH 31-03-2023 05.30.45 31-03-2023 05.30.45 1 Chrome (Default)	
Website Visits	2865	ST_ACK_NUM 881058215730383 29-03-2023 13.25.25 tin.tin.nsdl.com 31-03-2023 05.30.45 2 Chrome (Default)	
		SR6CTG 29-03-2023 13.27.43 tin.tin.nsdl.com 29-03-2023 13.27.43 tin.tin.nsdl.com 1 Chrome (Default)	
		3C3C4Q 29-03-2023 13.27.15 tin.tin.nsdl.com 29-03-2023 13.27.15 tin.tin.nsdl.com 1 Chrome (Default)	
		imgText 4vQWH 29-03-2023 13.26.48 tin.tin.nsdl.com 29-03-2023 13.26.48 tin.tin.nsdl.com 1 Chrome (Default)	
		imgText 73K4F 29-03-2023 13.26.20 tin.tin.nsdl.com 29-03-2023 13.26.20 tin.tin.nsdl.com 1 Chrome (Default)	
		imgText G645H 29-03-2023 13.25.52 tin.tin.nsdl.com 29-03-2023 13.25.52 tin.tin.nsdl.com 1 Chrome (Default)	
		CNLTV 29-03-2023 13.25.41 tin.tin.nsdl.com 29-03-2023 13.25.41 tin.tin.nsdl.com 1 Chrome (Default)	
		imgText Yq3cp 29-03-2023 13.25.25 tin.tin.nsdl.com 29-03-2023 13.25.25 tin.tin.nsdl.com 1 Chrome (Default)	
		ekyc16 sy7EJ 29-03-2023 12.49.59 onlineinnservices.nsdl.co 29-03-2023 12.49.59 onlineinnservices.nsdl.co 1 Chrome (Default)	
		mat-input-5 OmPrakash sah 29-03-2023 10.58.02 eportal.incometax.gov 29-03-2023 10.58.02 eportal.incometax.gov 1 Chrome (Default)	
		ekyc16 LWLNt 29-03-2023 09.22.59 eportal.incometax.gov 29-03-2023 09.22.59 eportal.incometax.gov 1 Chrome (Default)	

Artefact	Records	Logins	Report Preview
Bookmarks	126	Hostname Origin URL Submit URL Username Date Created Last Used Password Changed Times Used Web Browser (Profile)	
Browser Settings	23	https://accounts https://accounts deepakrongli.ds 03-04-2023 05.05.26 03-04-2023 05.05.26 1 Chrome (Default)	
Cached Files	4818	https://eportal.a https://eportal.a https://eportal.a 28-03-2023 14.54.37 0 Chrome (Default)	
Cached Images	2200	https://www.link https://www.link https://www.link 16-03-2023 15.35.52 0 Chrome (Default)	
Cached Web Pages	260	https://digilocke https://digilocke https://digilocke 02-03-2023 19.24.21 0 Chrome (Default)	
Cookies	1955	https://digilocke https://digilocke https://digilocke 02-03-2023 19.22.00 0 Chrome (Default)	
Downloads	62	https://auth.myl https://auth.myl https://auth.myl deepakrongli.ds 02-03-2023 19.01.58 0 Chrome (Default)	
Email Addresses	104	https://career44 https://career44 https://career44 deepakrongli.ds 28-02-2023 09.56.19 3 Chrome (Default)	
Favicons	3773	android://1q5T2 android://1q5T2 8808866155 25-02-2023 07.44.57 0 Chrome (Default)	
Form History	757	https://upsconli https://upsconli https://upsconli 1230000164397 21-02-2023 09.58.26 0 Chrome (Default)	
Logins	173	https://upsconli https://upsconli https://upsconli 1230000164397 21-02-2023 09.50.47 0 Chrome (Default)	
Searches	776	https://enterpris https://enterpris https://enterpris 228NG10038@c 13-01-2023 15.38.25 0 Chrome (Default)	
Session Tabs	195	https://www.jan https://www.jan https://www.jan 10-01-2023 20.05.01 0 Chrome (Default)	
Site Settings	485	https://exercism https://exercism https://exercism deepakrongli.ds 10-01-2023 10.16.20 1 Chrome (Default)	
Thumbnails	11	https://exercism https://exercism https://exercism Phoenixville 10-01-2023 10.15.08 0 Chrome (Default)	
Website Visits	2865	https://discord.c https://discord.c https://discord.c deepakrongli.ds 09-01-2023 06.14.25 0 Chrome (Default)	
		https://www.ace https://www.ace https://www.ace deepakrongli.ds 04-01-2023 11.55.06 4 Chrome (Default)	
		https://ats.upler https://ats.upler https://ats.upler shadepak24@gs 26-12-2022 14.52.37 0 Chrome (Default)	
		https://spoken-1 https://spoken-1 https://spoken-1 DeepakSha 26-12-2022 14.43.42 0 Chrome (Default)	
		https://serviceor https://serviceor https://serviceor deepakrongli.ds 06-12-2022 20.47.58 0 Chrome (Default)	
		https://passwon https://passwon https://passwon deepak.1190466 24-11-2022 07.44.52 1 Chrome (Default)	
		https://internet. https://internet. https://internet. 11904664 09-11-2022 07.03.19 0 Chrome (Default)	
		https://replit.co https://replit.co https://replit.co PhoenixBuddha 03-11-2022 21.02.43 0 Chrome (Default)	
		https://www.zag https://www.zag https://www.zag Buddha2108 22-10-2022 20.01.19 0 Chrome (Default)	
		https://www.zag https://www.zag https://www.zag buddha 22-10-2022 19.59.54 0 Chrome (Default)	
		http://testphp.vi http://testphp.vi http://testphp.vi 20-10-2022 11.15.27 0 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.