Browser Tracker Blocker Extension – Project Report

1. Introduction

In today's digital world, websites often collect user data without permission through hidden tracking scripts. These tracking domains monitor browsing activity, clicks, preferences, and sometimes personal information. This raises major privacy concerns for users.

To address this issue, this project implements a Browser Tracker Blocker Extension. The extension identifies and blocks known tracking domains in real time. It also displays the number of trackers blocked, helping users stay aware of their online privacy.

2. Objective

- Detect tracking scripts.
- Block known tracking domains.
- Provide a transparent tracker count to users.

3. Abstract

This project aims to enhance user privacy by developing a browser extension that detects and blocks tracking domains. Online trackers embedded in websites monitor user behavior for advertising and data analytics. The proposed extension intercepts network requests, compares them with a list of tracking URLs, and blocks any matching domains. A popup interface is used to show the count of blocked trackers. The project demonstrates how browser extensions can be used to improve web security and protect user information effectively.

4. Project Workflow

The extension uses a manifest file and background script to intercept network requests. It checks each domain against a list of trackers and blocks them if matched. A popup interface displays the number of blocked trackers

5. Tools Used

Software & Technologies

- **HTML** – For popup structure
- **CSS** – For designing popup UI
- **JavaScript** – Core logic for blocking trackers
- **Manifest.json** – Browser extension configuration
- **Chrome Developer Tools** – Testing and debugging the extension
- **Tracking Domain List** – Contains known tracker URLs
- **ZIP Packaging Tool** – To pack the extension for installation

Hardware Requirements

- A workstation with **Windows / Linux / macOS**
- Internet connection for testing live tracking sites

6. Steps Involved in Building the Project

Step 1: Creating Project Folder Structure

- Create a folder with files:
    - manifest.json
    - background.js
    - popup.html
    - popup.js
    - style.css
    - trackers.json

Step 2: Preparing the Manifest File

- Configure extension details

- Request permissions such as:
    - "webRequest"
    - "webRequestBlocking"
    - "activeTab"

Step 3: Adding Tracking Domain List

- Create a JSON file containing known tracker URLs
- Example: Google Analytics, Facebook trackers, AdSense domains

Step 4: Writing Background Script

- Capture all outgoing network requests
- Compare domain against tracker list
- Block the request if matched
- Increase tracker-count

Step 5: Designing the Popup Interface

- Create a simple UI that shows:
    - “Number of Trackers Blocked”
    - A refresh or stats area

Step 6: Writing Popup Logic

- Connect popup to background script
- Display real-time tracker-count to the user

Step 7: Loading Extension in Chrome

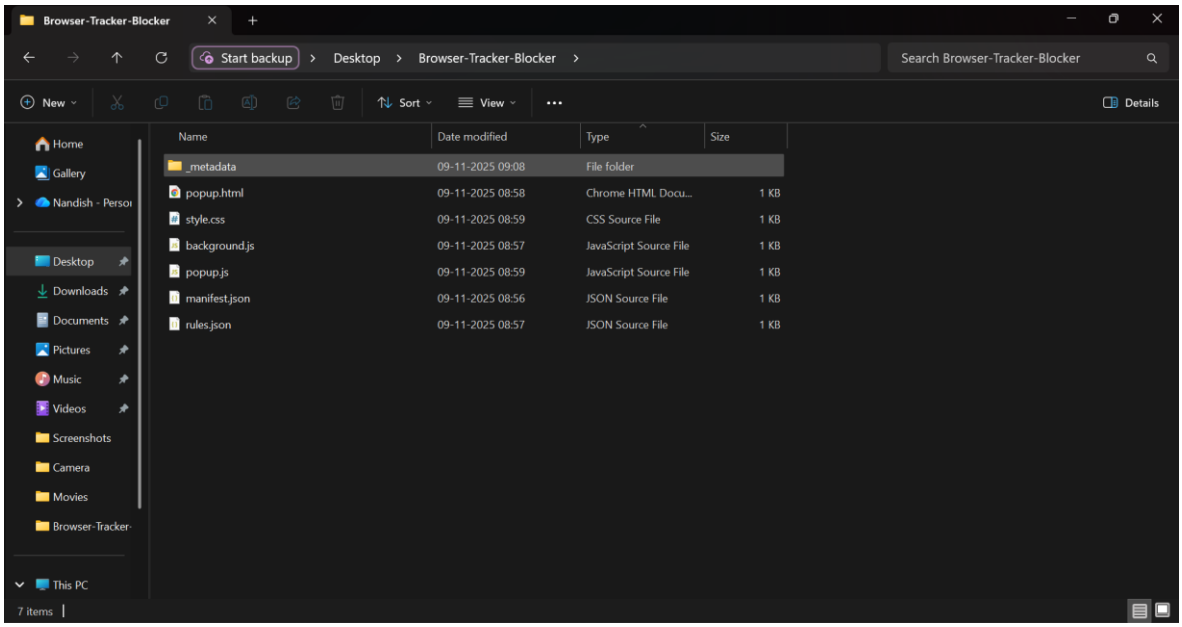
- Open chrome://extensions/
- Enable **Developer Mode**
- Click **Load Unpacked**
- Select the project folder

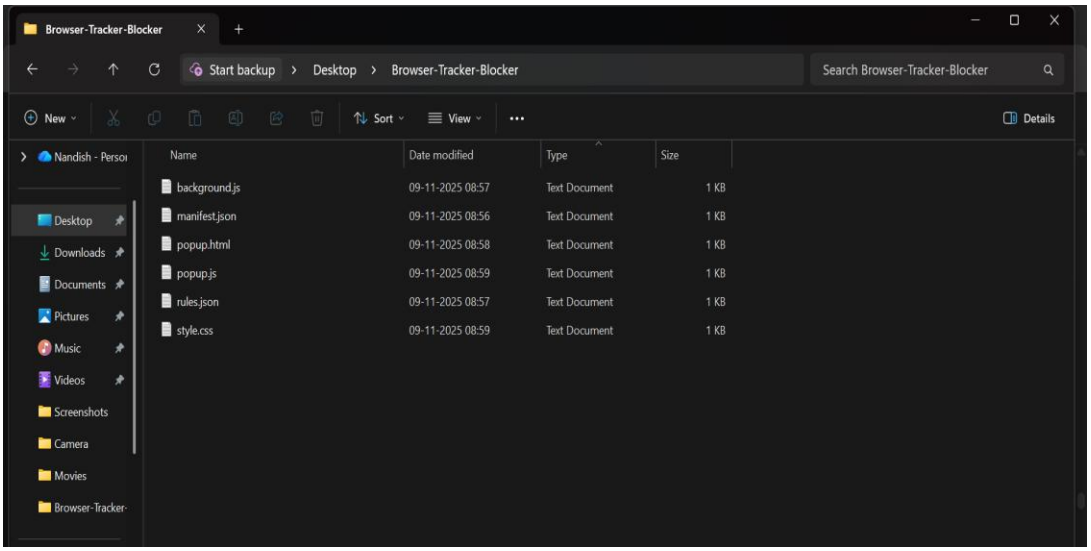
- Check if the extension loads without errors

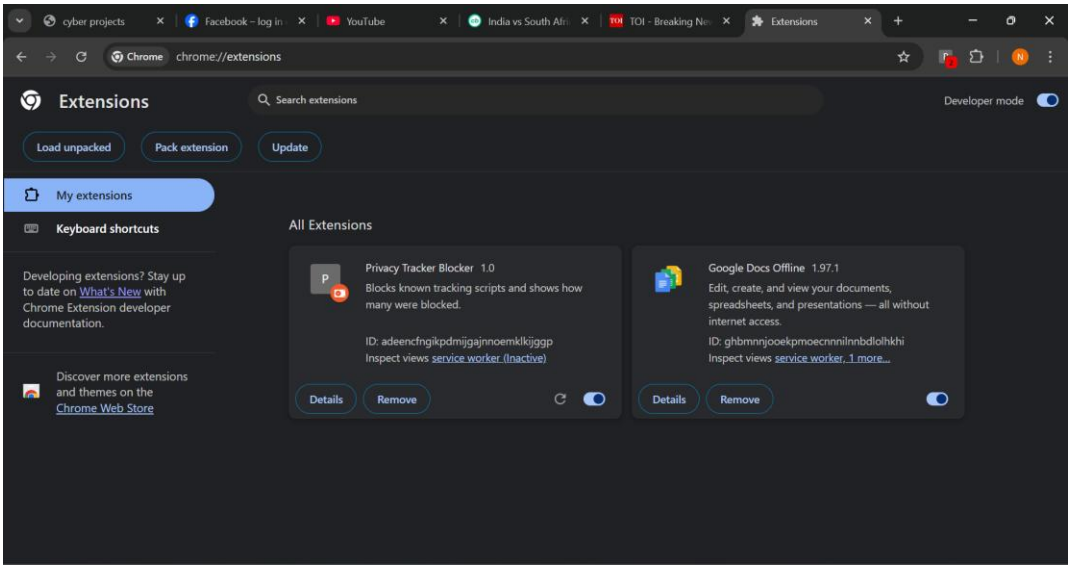
Step 8: Testing

- Visit websites such as:
    - news websites
    - social media pages
    - e-commerce sites
- Check if tracker count increases
- Verify blocked domains in the consol

7. Screenshots




Browser-Tracker-Blocker
Start backup › Desktop › Browser-Tracker-Blocker
Search Browser-Tracker-Blocker
New
Sort
View
Details
Name
Date modified
Type
Size
background.js 09-11-2025 08:57 Text Document 1 KB
manifest.json 09-11-2025 08:56 Text Document 1 KB
popup.html 09-11-2025 08:58 Text Document 1 KB
popup.js 09-11-2025 08:59 Text Document 1 KB
rules.json 09-11-2025 08:57 Text Document 1 KB
style.css 09-11-2025 08:59 Text Document 1 KB
Desktop
Downloads
Documents
Pictures
Music
Videos
Screenshots
Camera
Movies
Browser-Tracker-


chrome://extensions
Extensions
Search extensions
Developer mode
Load unpacked
Pack extension
Update
My extensions
Keyboard shortcuts
All Extensions
Privacy Tracker Blocker 1.0
Blocks known tracking scripts and shows how many were blocked.
ID: adeencfngikpdmijgajnnoemklkjjggp
Inspect views service worker (Inactive)
Details
Remove
Google Docs Offline 1.97.1
Edit, create, and view your documents, spreadsheets, and presentations — all without internet access.
ID: ghbmnnjooekpmoecnnnilnnbdlolhkhi
Inspect views service worker, 1 more...
Details
Remove
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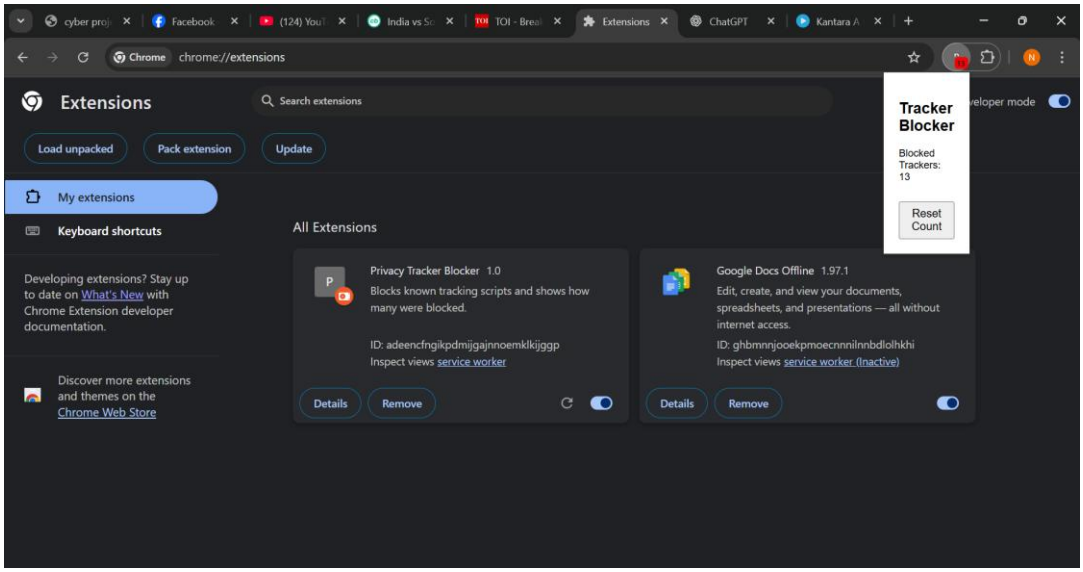

8. Conclusion

The Browser Tracker Blocker Extension successfully identifies and blocks tracking domains, preventing websites from collecting user data without permission. It helps users stay informed about how many trackers are active on the websites they visit. This project highlights how browser extensions can increase privacy, reduce data misuse, and provide users with more control over their online experience. The extension is lightweight, easy to use, and can be further enhanced by updating domain lists or adding advanced privacy tools.

Submitted by

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