Task – 7 Identify and Remove Suspicious Browser Extensions

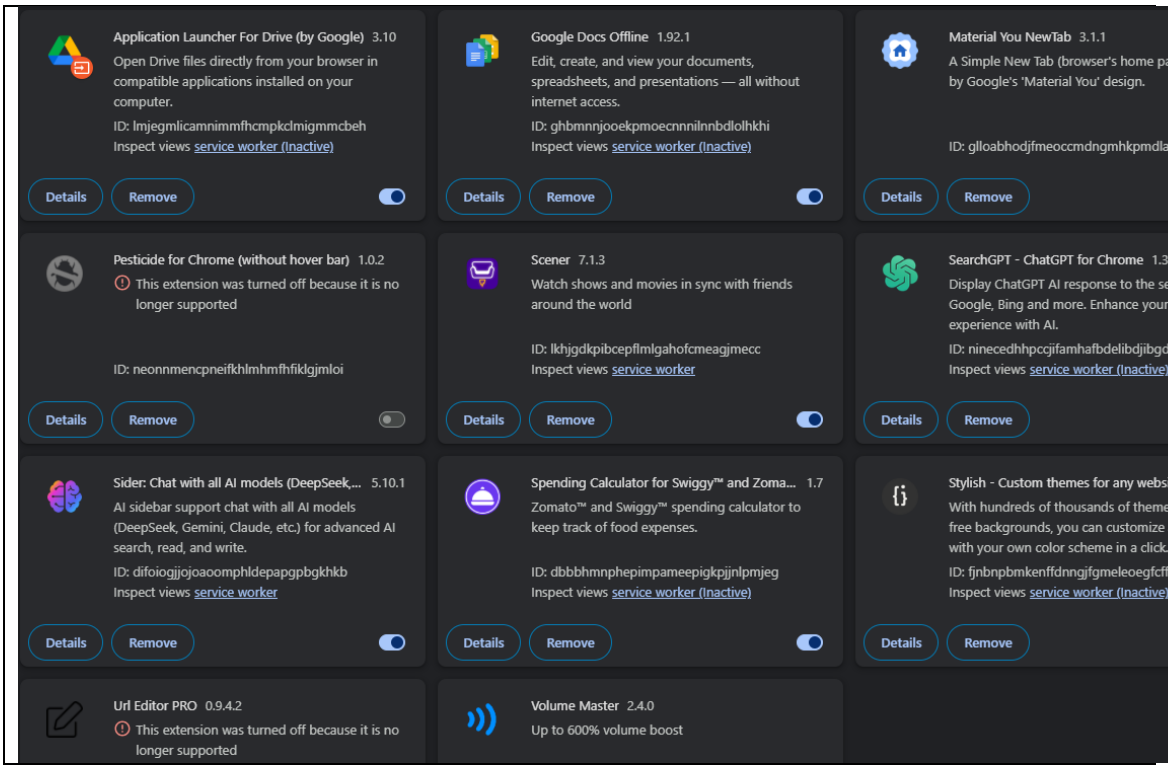
Objective: Learn to spot and remove potentially harmful browser extensions**.**
Tools: Any web browser (Chrome, Firefox)

STEPS TAKEN:

1. Currently I am using Google Chrome browser ,
   so to navigate to extensions you need to open extensions manager
   which can be done by :

Menu (⋮) > Extensions > Manage Extensions
Or go to ***chrome://extensions/***

This is the list of extensions I currently use in my browser. I will now review each extension and check for any excessive or suspicious permissions that could make my system vulnerable.



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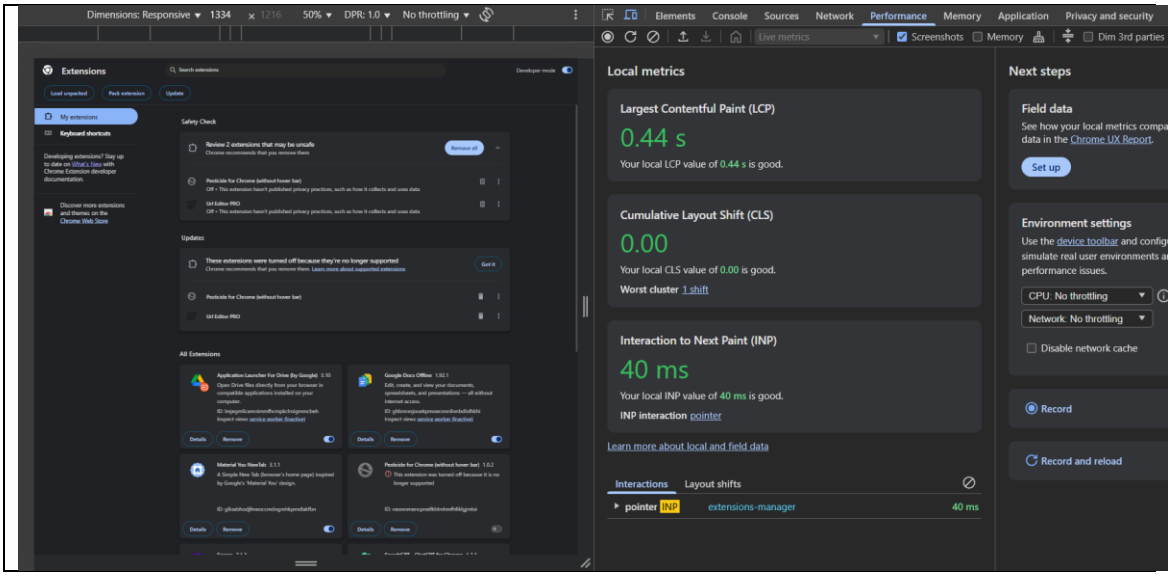
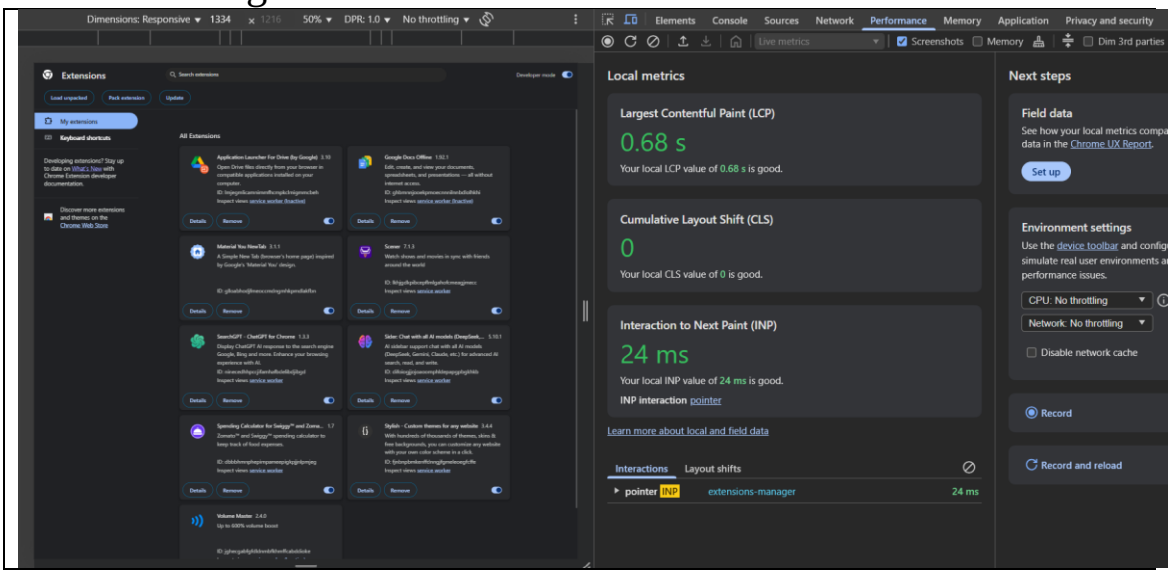
2. After completing my analysis of all the extensions, I found that some are used to enhance the visual appearance of Chrome, while others are AI-based and assist me with instant tasks.
However, Chrome has flagged two extensions that are no longer supported and have been disabled. It is considered a good practice to remove such extensions, as they no longer serve a purpose.

   The current performance of Chrome with all existing extensions is as follows:



3. After removing the extensions:



Based on the screenshots attached above here is a small analysis of working of browser before and after restarting the browser after removing unused extension.

Screenshot 1 Performance (Image with all extensions)

- **Largest Contentful Paint (LCP):** 0.44 s *(Good)*
- **Cumulative Layout Shift (CLS):** 0.00 *(Perfect)*
- **Interaction to Next Paint (INP):** 40 ms *(Excellent)*

Screenshot 2 Performance (Image with removed extensions)

- **Largest Contentful Paint (LCP):** 0.68 s *(Still Good)*
- **Cumulative Layout Shift (CLS):** 0.00 *(Perfect)*
- **Interaction to Next Paint (INP):** 24 ms *(Even better)*

Which is Better?

Metric	Screenshot 1	Screenshot 2	Better
LCP (Load Speed)	0.44 s	0.68 s	**Screenshot 1**
CLS (Layout Stability)	0.00	0.00	**Both Same**
INP (Responsiveness)	40 ms	24 ms	**Screenshot 2**

Conclusion

- **Screenshot 1** loads content slightly faster (LCP).
- **Screenshot 2** is more **responsive to interactions** (INP).
- Both have **perfect layout stability (CLS)**.

Overall, **Screenshot 2 shows slightly better interactive performance**, which can be more noticeable in everyday use.
However, **Screenshot 1** has marginally faster content load times. Both setups are very well optimized.

Malicious extensions can significantly compromise user privacy, security, and system performance. Here's **how malicious browser extensions can harm users**:

1. Data Theft

- **Stealing personal data** such as login credentials, browsing history, autofill information, and cookies.
- Capturing **credit card numbers**, passwords, and other sensitive data by logging keystrokes (keylogging).

2. Browser Hijacking

- Redirecting users to **phishing or malicious websites**.
- Changing search engines, homepage, or new tab settings to display ads or collect traffic.

3. Ad Injection and Pop-ups

- Inserting **unwanted ads** or pop-ups on legitimate websites.
- Monetizing traffic through **click fraud**.

4. Unauthorized Permissions

- Requesting unnecessary permissions (e.g., access to "read and change all your data on websites") that allow surveillance or manipulation of user activity.

5. Slowing Down System Performance

- Running **background scripts** that consume CPU, memory, and bandwidth.
- Causing browser crashes or high resource usage.

How to Stay Safe

- Install extensions only from **trusted developers**.
- Always check **reviews, ratings, permissions**, and **last updated date**.
- Remove any extension that seems suspicious or is **no longer supported**.