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INTERNSHIP PROJECT: Browser Extension to Block Trackers

Introduction

Online privacy has become a critical concern in the digital age. Web users are constantly tracked by embedded scripts that collect browsing data, behavioral patterns, and personal information for targeted advertising and user profiling. Common trackers include Google Analytics, Facebook Pixel, and LinkedIn Ad Network, which operate across millions of websites.

Browser Extension to Block Trackers is a lightweight Chrome browser extension designed to address this privacy issue by automatically detecting and blocking HTTP requests to known tracking domains. The extension empowers users to protect their personal data without sacrificing browsing functionality. This project demonstrates practical application of browser extension development, request interception, and privacy-enhancing technologies.

Abstract

Browser Extension to Block Trackers is a Chrome Extension (Manifest V3) that blocks requests to 11+ known tracking domains in real-time. The extension maintains a live counter displaying blocked trackers and provides a simple popup interface for user interaction.

Key Features:

- Real-time blocking of tracker requests
- Live counter showing blocked tracker count
- User-friendly popup with Reset Counter button

No data collection or external server communication

Tools Used

Programming Languages:

- JavaScript ES6+ (core logic and request handling)
- HTML5 (popup structure)

CSS3 (styling with gradients, animations, flexbox)

APIs & Technologies:

- Chrome WebRequest API (intercepts network requests)
- Chrome Storage API (persists blocked counter)

Manifest V3 (latest Chrome extension specification)
Service Workers (background execution model)

Development Environment:

- Visual Studio Code (code editor)
- Google Chrome (testing and debugging)

Conclusion

Tracker Blocker successfully demonstrates the complete development lifecycle of a practical privacy-enhancing browser extension. Through this project, I gained hands-on experience in:

Technical Skills:

- Chrome Extension architecture and Manifest V3 API
- JavaScript asynchronous programming with Chrome APIs
- HTML/CSS responsive design for compact UI

Network request interception and filtering
Local data persistence in browser storage

Problem-Solving:

- Debugging manifest configuration issues
- Optimizing request matching for performance

Implementing real-time UI updates