# TrackExtension - Browser Extension to Block Trackers

## Abstract

This project, named TrackExtension, is a privacy-focused browser extension designed to block known tracking scripts and enhance user privacy. The extension leverages Chrome Manifest V3, JavaScript, and browser APIs to intercept and block requests from known tracking domains. It features a real-time badge counter, customizable whitelist, and an intuitive interface for monitoring blocked trackers.

## Tools Used

1. HTML, CSS, and JavaScript – for front-end design and logic.  
2. Chrome Extension Manifest V3 – for browser integration.  
3. Declarative Net Request (DNR) API – for blocking trackers efficiently.  
4. JSON – for storing static rules and configurations.  
5. Visual Studio Code – for coding and testing.  
6. Chrome Developer Mode – for debugging and testing the extension.

## Steps Involved in Building the Project

1. Project Initialization: Created the folder structure and defined permissions in manifest.json.  
2. Blocking Mechanism: Implemented service\_worker.js to detect and block tracker domains using DNR API.  
3. User Interface: Developed popup.html, popup.js, and options.html for user control and analytics.  
4. Rule Management: Added static\_rules.json to store predefined tracking domains.  
5. Icon Integration: Designed 16x16 and 48x48 pixel icons for extension branding.  
6. Testing & Debugging: Loaded the unpacked extension in Chrome and validated its performance.  
7. Report Preparation: Compiled this document summarizing the development process and outcomes.

## Conclusion

TrackExtension successfully demonstrates how browser extensions can be used to enhance digital privacy. By utilizing Manifest V3 and the Declarative Net Request API, it efficiently blocks trackers without compromising performance. The project provides users with transparency and control over their browsing privacy, making it a valuable tool for safe and private internet use.