



Building A Privacy-Oriented Chrome Extension

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Abstract: This project is being designed with the privacy preferences of the end user in mind, by creating a Google Chrome extension that will carry out predefined tasks. The extension is being built on the core technologies of JavaScript, HTML, Cascading Style Sheets, among others. The ultimate goal of the extension is to help users retain a certain extent of privacy while surfing the internet. In addition to optionally clearing browser cookies and cache, the extension is also being envisioned as one that may display data usage in the current session, so as to help the users maintain control over their bandwidth. The motivation behind the project is to provide a simple tool for everyday users; this tool will help even the layman user to keep tabs on his/her browsing activities.

Keywords: chrome, software, privacy, extension, user, browser data

I. INTRODUCTION

The main idea is to create a tool for the normal user, while browsing the internet. As huge technology conglomerates grow day-by-day, the race to provide the users with personalized experiences grows with it. Data hoarding, user-profiling are some of the techniques used to achieve this. And while this seems a good practice from the companies' viewpoint, not every user wants to be under scrutiny, even for personalization purposes. This project aims to help such users regain and retain a small modicum of privacy.

II. PROBLEM STATEMENT

The Chrome Extension will contain a series of files, including, the core JavaScript files, the working JS files, the UI files and other peripherals. The Chrome Extension will start when the browser starts and will stop when the browser is closed. It will contain some options that will help the user set the preferences for cookie and cache management. There will be additional options that will work alongside these.

III. LITERATURE REVIEW

1. Implementation of extension for browser to detect vulnerable elements on web pages and avoid Clickjacking

2.

Author(s): Dipti Pawade, Divya Reja, Abhilasha Lahigude

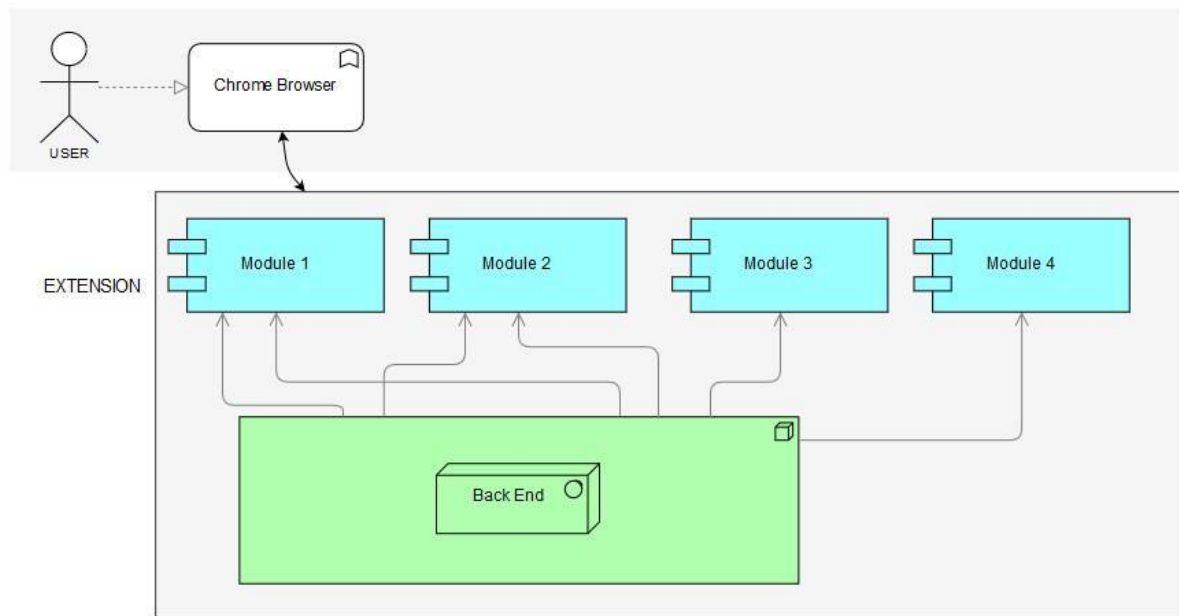
This paper addresses the problem of Web security and provides solution to enjoy secure Web browsing facility. We have developed the browser extension ClickProtect which provide a generic solution to multiple Clickjacking attacks. ClickProtect will run on the browser while user is surfing on the Internet. It is envisioned to detect clickjacking attacks by warning the user before proceeding with the unsafe actions. Here along with pop-up warning message the unsafe, hidden Web components are made visible. This will help to reduce the chances of user information getting stolen, and thereby lead to secure browsing.

3. Striving with online addiction with a self-control chrome extension

Author(s): Evgeny Pyshkin, Maxim Mozgovoy, Alexander Chisler, and Yulia Volkova

In this paper, the authors examine a problem of addictive IT services and discuss existing tools for human self-control and self-assessment. Current web technologies support simple on-demand access to various media streaming services. Despite evident positive factors of such entertainment product delivery methods (no downloading is required, media content is accessible anywhere), there are concerns about their addictiveness. As a response to this problem there are time-management tools helping the users to set their short- and long-term goals and to follow them. One significant drawback of existing tools is their focus on blocking access to a service rather than on cooperating with a user by attempting to switch users' attention away from an addictive product. The authors discuss possible scenarios for such a commitment tool implemented as a Google Chrome browser extension for managing time spent on TV-series online streaming services.

IV. SYSTEM ARCHITECTURE



V. ARCHITECTURE DESCRIPTION

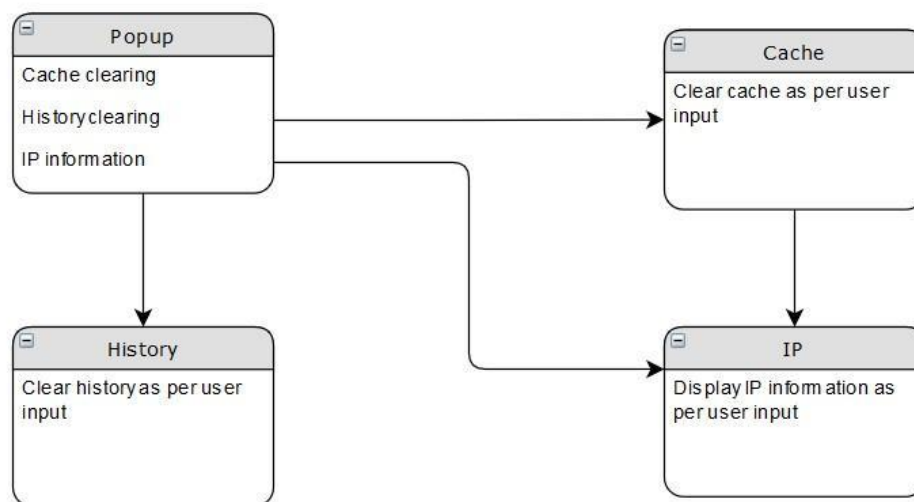
The users will be able to interact with the extension through a popup. The popup will be present in the toolbar area of the browser. It will be a clear-cut and simple interface.

VI. MODULES

The extension will be implemented to include the following modules:

- Cache management
- Cookie management
- IP address monitoring
- WebRTC Control

FLOWCHART:



VII. CONCLUSION

The majority of the extension will be coded in languages already in our syllabus. These languages include JavaScript, web technologies like responsive CSS and HTML. Our aim is to make an extension that has all the tools necessary for a medium-level computer-savvy user. In-house expertise is present, since it is part of our syllabus. We have undertaken this venture to help the non-expert user have a better chance at retaining some amount of privacy. As mentioned earlier, the plan is to add more modules as time progresses. Even though there are different purposes for different extensions, we will try to build ours as close to users' convenience as possible. In the coming years, we hope to build an advanced version of this extension, and even port it to other popular browsers like Mozilla Firefox.

VIII. REFERENCES

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