

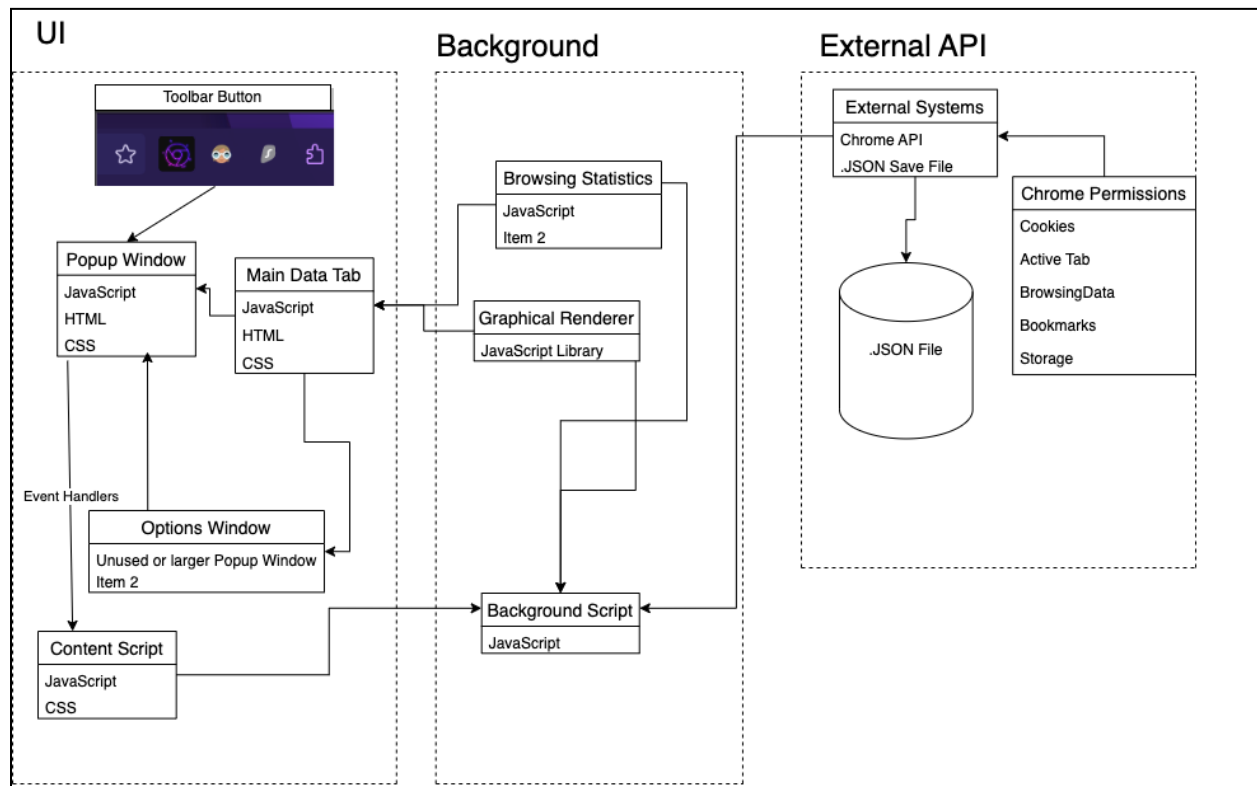
# Chrome Wrapped(™)

[GitHub Link](#)

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# System Architecture



# Requirements

Hardware Requirements

Software Requirements

[Chart.js, Graphical Charting Library](#)

Chrome API

Google Chrome Browser

System Requirements

Windows 10 or higher

macOS High Sierra 10.13 or later

64-bit Ubuntu 18.04+, Debian 10+, openSUSE 15.2+, or Fedora Linux 32+

## External Interfaces

[Chrome API](#)

Chrome API will be used to gather chrome history information in order to compile data. Using the below function, we can gather the stored history of the past 90 days to be stored within our .csv file. As our extension is developed from Chrome, communicating with it should not be too difficult.

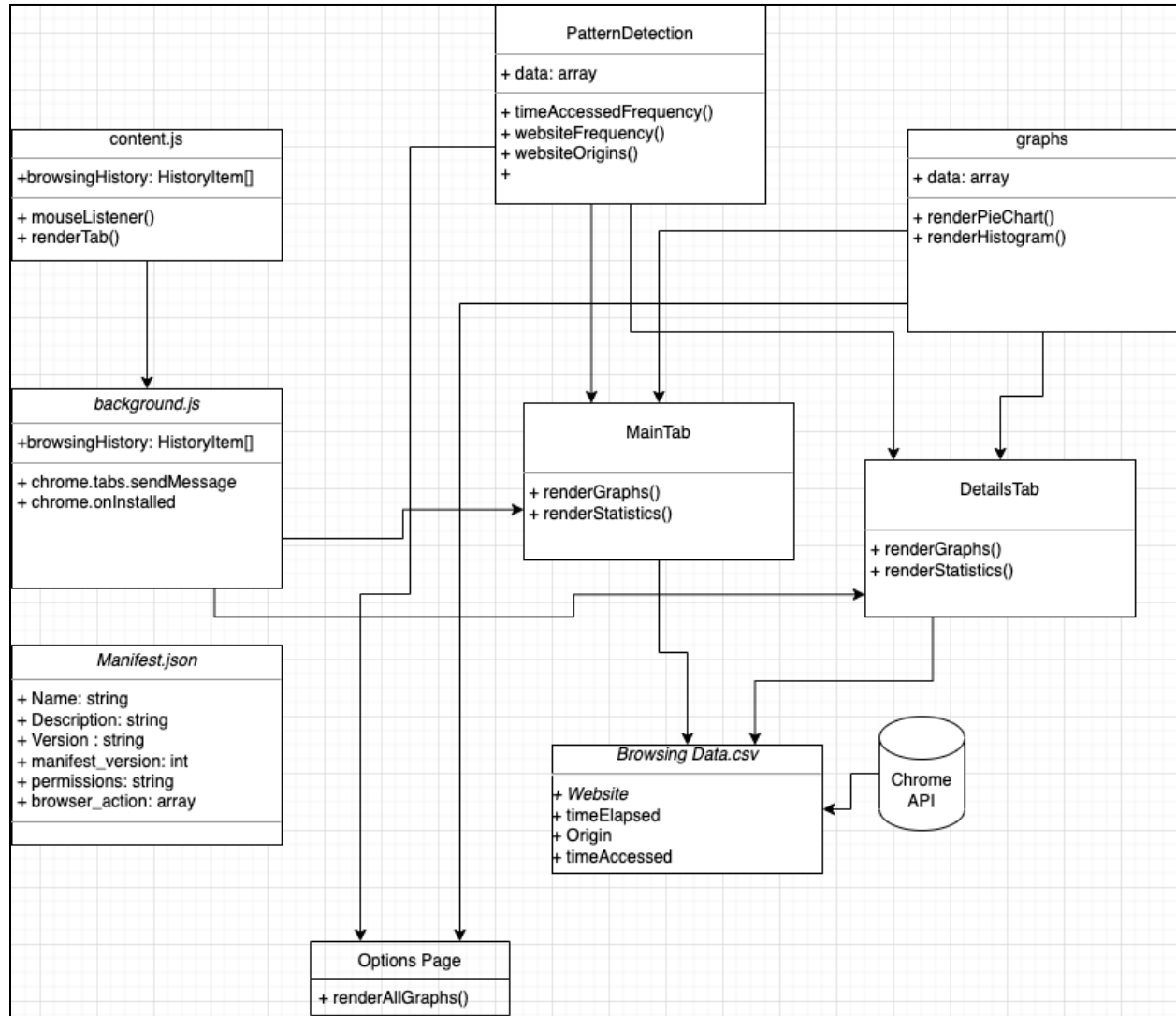
```
chrome.history.search(  
  query: object,  
  callback?: function,  
)
```

[Chart.js, Graphical Charting Library](#)

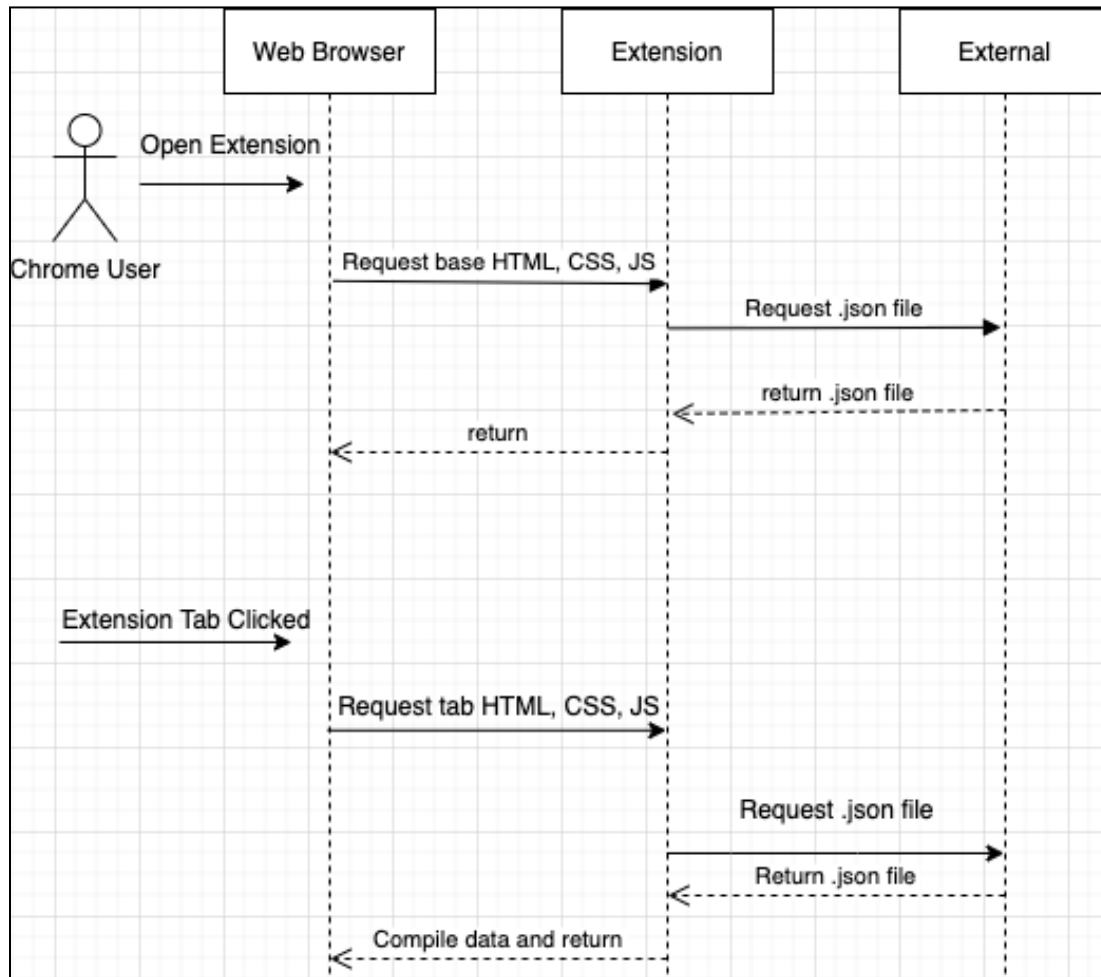
Chart.js will be utilized to generate the graphics to visually represent our data gathered from Chrome API.

# Software Design

## Class Diagram & Specification



## Interaction Diagrams:



## Design Considerations

We decided to use React for our design, as it will reduce the need for HTML and CSS files, and allow us to build the application in components rather than large, unwieldy HTML code blocks. This will also allow us to make the program more modular and flexible.

## User Interface Design



## Glossary Terms

Background Script: Communicates with chromeAPI, storage, and other external applications

Content Script: “Content scripts are JavaScript files that run in the context of web pages. By using the standard Document Object Model (DOM), they can read details of the web pages the browser visits, or make changes to them.”

Manifest.json: Contents Metadata (Name, version, size, points to all other files ,etc.)

Match Pattern: Host permissions and content script matching are based on a set of URLs defined by match patterns. Essentially URLs that the content script is allowed to run code onto.

Pop Up Window: Window opened when chrome extension is clicked, contains HTML, CSS, JS

React: Also known as React.js or ReactJS is a free and open-source front-end JavaScript library for building user interfaces based on UI components.

## References

*React: Up & Running* / Stefanov, Stoyan. (2016). O'Reilly Media, Inc.

*Creating Google Chrome Extensions* / Mehta, Prateek. (2016). Apress.

Fu, J., He, J., Xie, M., & Mei, X. (2021). Recognizing malicious behaviors of chrome extensions through direct javascript execution. *Wuhan University Journal of Natural Sciences*, 26(1), 89–101.  
<https://doi.org.pacificatclassic.pacific.edu/10.19823/j.cnki.1007-1202.2021.0015>