Sergio Munguia – Project Rough Draft - June 5, 2017
Loften Bullard / Summer 2017 / Principles of Software Engineering

Plug-In Computer Software Component (Add-on, Extention, Plug-in Software Architecture)
Vision – " Aid in increasing graduation rate & suggested career skills performance enhancing elective selection with skills learned "

Key Smart System Points

- Comparison of your (current grades, interests) to suggested (grades, interests) in elective fields to better match you with electives for your career matching interests.

-testing grades accomplished with grades required for these specific electives since they are concentrated on either of these skills (trigonometry(graphic engine development), caculus (stochastic modeling), computation theory(programming languages), analysis(algorithms), or database design(DBMS), integrated circuits(VLSI), assembly language(Embedded Systems), or Abstraction(Data mining))

- Search and retrieve comments most common words (assign tag) those words through the comments (count) and return the ratio of (positive words : negative words).

- Give the rating shown from rate my professors as an addition representation of teacher approval.

- Provide the Skills Learned from the class. & Show if they will match to your interests.

- Show if the electives selected match your career path.

Key implementation

- ✓ Easy Access On Toolbar Via Chrome Browser
- ✓ CE, CS, and extend it to EE, and all other engineering majors

Use of HTML 5, CSS, JavaScript

Drop down selections for Interests, could include Common Career Titles for CE, CS Fields.
Input box for Professor's Name
Input box for grades in core classes of selected Major CS
(Formal Languages, Algorithm Analysis & Design, Database structures, Micro-Processors, Logic Design, Calculus I & II & III, Intro to Programming Language)

Output is Approval Ratings from 2 sources,

1. All comments section comparison ration of positive:negative words
2. Ratemyprofessors Rating

Output is suggested electives to selected based on grades in previous core classes & interests
Output is skills learned from suggested electives

What are Chrome Extensions?

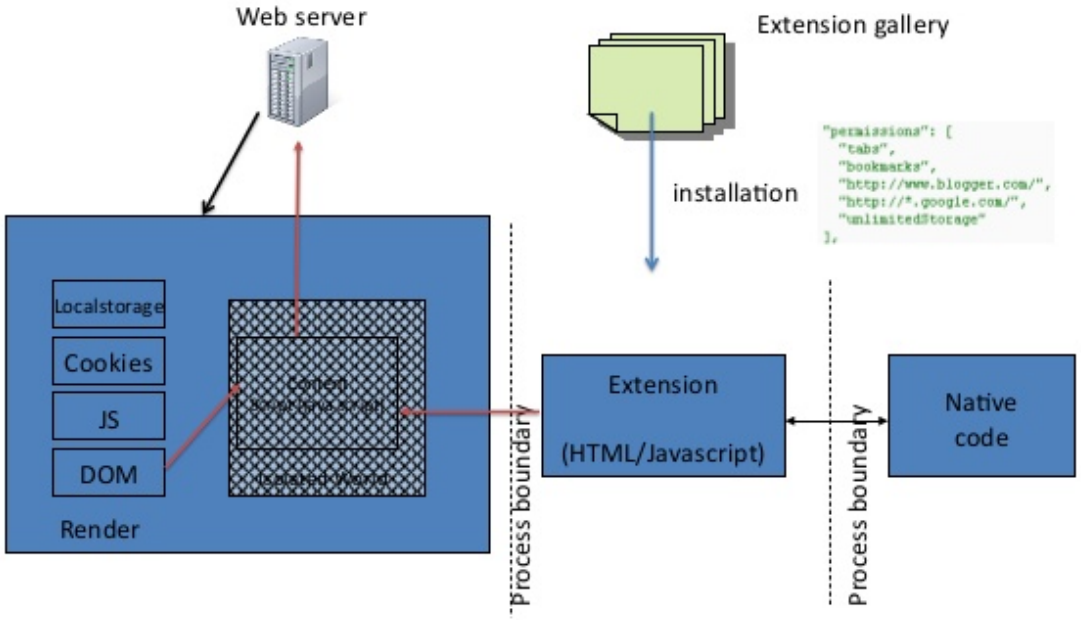
- Small programs that modify or enhance Google Chrome's functionality
- Installs easily
- Updates automatically
- Runs in separate process
- Written using HTML, JavaScript and CSS
- Integrated using simple APIs
- Developed iteratively

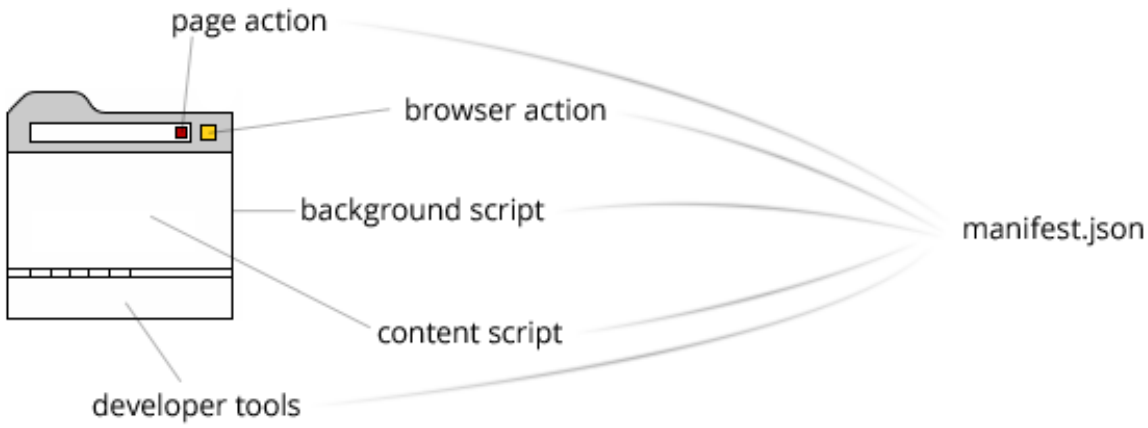
Structure of a Chrome Extension

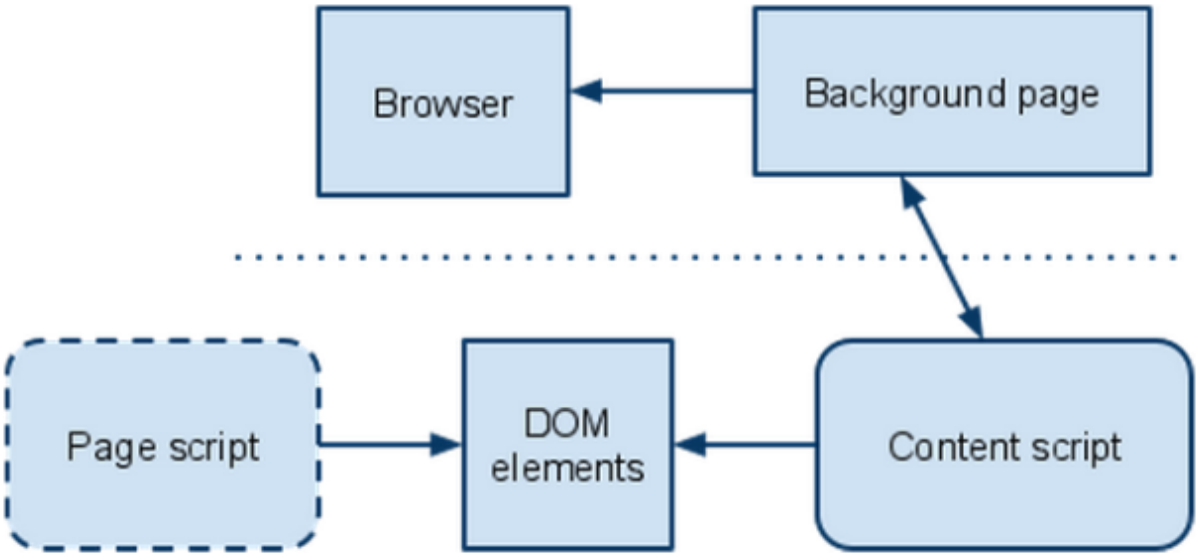
A compressed file composed of:

- manifest.json (Manifest file)
- optional HTML files
- optional JavaScript files
- optional CSS files
- any other files (logo, images, etc.)

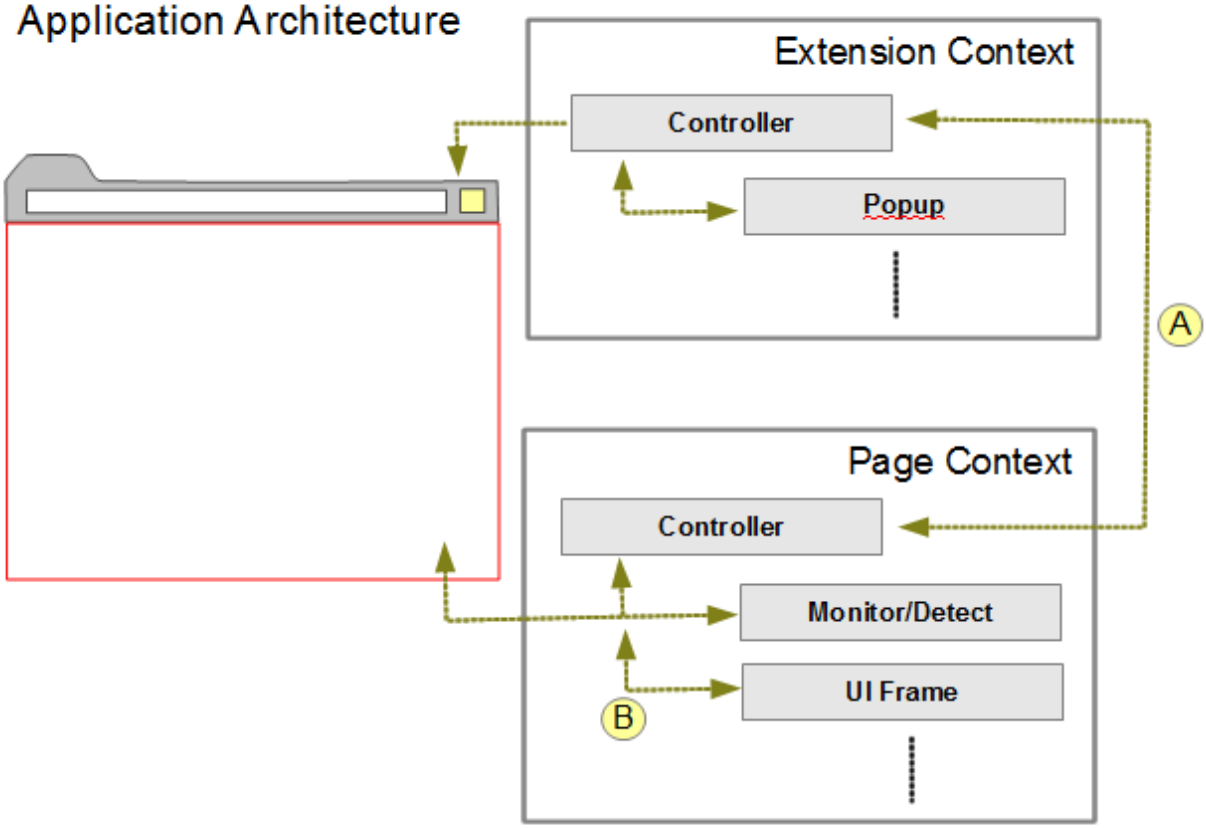
Chrome Extension Architecture





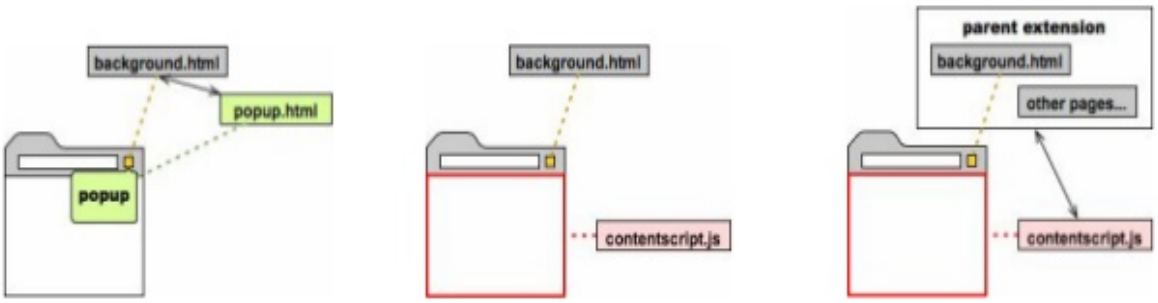


Overview of Browser Extension Application Architecture



Data flow between UI and background

Architecture



Background/Event pages

Background page, an invisible page that holds the main logic of the extension

```
"background": {
    "scripts": ["background.js"],
    "persistent": false//or true
},
```

Content scripts

Content scripts are JS files that run in the context of web pages.