

Google™



Google Chrome Extensions How-to



Brian Kennish
May 20th, 2010



j.mp/chrome6



#chrome6

Contents

Contents

- Intro

Contents

- Intro
- Hello World

Contents

- Intro
- Hello World
- Webbusiness

Contents

- Intro
- Hello World
- Webbusiness
- Features

Contents

- Intro
- Hello World
- Webbusiness
- Features
- HTML5

Contents

- Intro
- Hello World
- Webbusiness
- Features
- HTML5
- Experiments

Contents

- Intro
- Hello World
- Webbusiness
- Features
- HTML5
- Experiments
- Q&A

Introduction

Image: www.flickr.com/photos/powerhouse_museum/2582658344/

Overview

Overview

- Make-your-own browser

Overview

- Make-your-own browser
- Simplicity, stability, and security

Overview

- Make-your-own browser
- Simplicity, stability, and security
- Convenient gallery

Stats

Stats

- 300+ extensions at launch

Stats

- 300+ extensions at launch
- 750+ new extensions / month

Stats

- 300+ extensions at launch
- 750+ new extensions / month
- 10M+ extension installs / month

Stats

- 300+ extensions at launch
- 750+ new extensions / month
- 10M+ extension installs / month
- 15%+ of users have extensions



Hello I/O!

Image: [CC BY 2.0 www.flickr.com/photos/fenris117/4536603725/](https://www.flickr.com/photos/fenris117/4536603725/)

Steps

Steps

- Create directory

Steps

- Create directory
- Create manifest file

Steps

- Create directory
- Create manifest file
- Add icons

Steps

- Create directory
- Create manifest file
- Add icons
- Create popup

Steps

- Create directory
- Create manifest file
- Add icons
- Create popup
- Upload to gallery

Steps

- Create directory
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- Create popup
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- ?

Steps

- Create directory
- Create manifest file
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- Create popup
- Upload to gallery
- ?
- Profit

Steps

- Create directory
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- Profit

Steps

- Create directory
- Create manifest file
- Add icons
- Create popup
- Upload to gallery
- ~~?~~
- Profit

web store!

Extensions Are Webpages

Image: [CC BY-SA 2.0 www.flickr.com/photos/jonycunha/4376150714/](https://www.flickr.com/photos/jonycunha/4376150714/)



Mostly

Extensions Are Webpages

Image: [CC BY-SA 2.0 www.flickr.com/photos/jonycunha/4376150714/](https://www.flickr.com/photos/jonycunha/4376150714/)

Mostly
Extensions Are Webpages
^

Similarities

Similarities

- HTML, CSS, and JavaScript

Similarities

- HTML, CSS, and JavaScript
- Development and debugging

Similarities

- HTML, CSS, and JavaScript
- Development and debugging
- DOM, XHR, HTML5, WebKit, and V8



Extra Features

Image: CC BY 2.0 www.flickr.com/photos/mwichary/2251347415/

More UI Surfaces

More UI Surfaces

- Browser action

More UI Surfaces

- Browser action



More UI Surfaces

- Browser action



More UI Surfaces

More UI Surfaces

- Page action

More UI Surfaces

- Page action



More UI Surfaces

- Page action



More UI Surfaces

More UI Surfaces

- Content scripts

More UI Surfaces

- Content scripts



More UI Surfaces

More UI Surfaces

- Desktop notifications

More UI Surfaces

- Desktop notifications



More UI Surfaces

More UI Surfaces

- Infobars

More UI Surfaces

- Infobars



More UI Surfaces

More UI Surfaces

- Context menu

More UI Surfaces

- Context menu



Special Components

Special Components

- Manifest file

Special Components

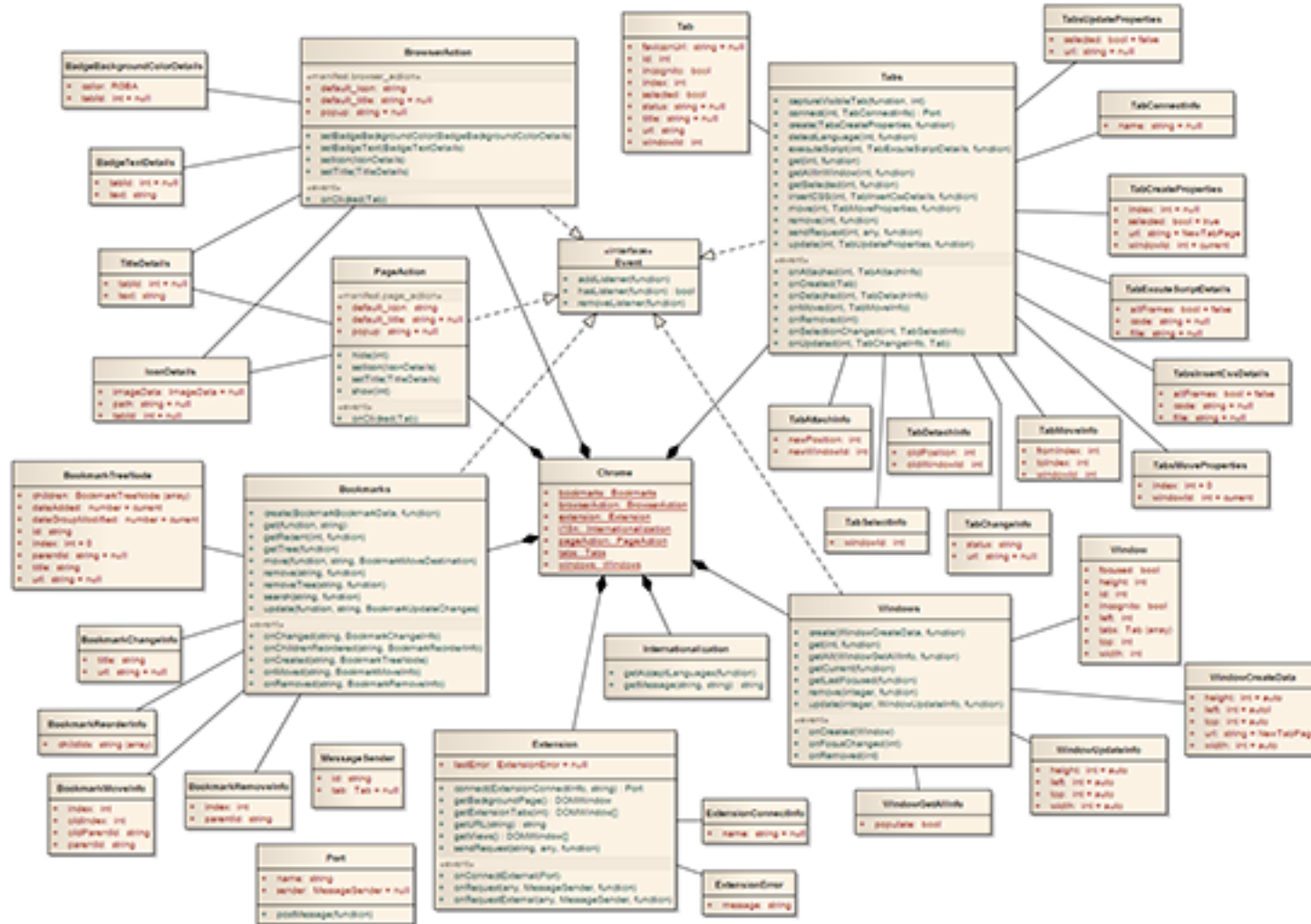
- Manifest file
- Background page

Special Components

- Manifest file
- Background page
- Options page

Privileged APIs

Privileged APIs



Privileged APIs

Privileged APIs

- `chrome.windows`

Privileged APIs

- `chrome.windows`
- `chrome.tabs`

Privileged APIs

- `chrome.windows`
- `chrome.tabs`
- `chrome.history`

Privileged APIs

- `chrome.windows`
- `chrome.tabs`
- `chrome.history`
- `chrome.bookmarks`

Privileged APIs

Privileged APIs

- `chrome.browserAction`

Privileged APIs

- `chrome.browserAction`
- `chrome.pageAction`

Privileged APIs

- `chrome.browserAction`
- `chrome.pageAction`
- `chrome.extension`

Privileged APIs

- `chrome.browserAction`
- `chrome.pageAction`
- `chrome.extension`
- `chrome.i18n`

The Notifier Pattern

The Notifier Pattern

Problem:

The Notifier Pattern

Problem:

- Data tracking

The Notifier Pattern

Problem:

- Data tracking
- Item counter

The Notifier Pattern

Problem:

- Data tracking
- Item counter
- Item details

The Notifier Pattern

Problem:

- Data tracking
- Item counter
- Item details

Solution:

The Notifier Pattern

Problem:

- Data tracking
- Item counter
- Item details

Solution:

- Cross-origin XHR

The Notifier Pattern

Problem:

- Data tracking
- Item counter
- Item details

Solution:

- Cross-origin XHR
- Browser-action badge

The Notifier Pattern

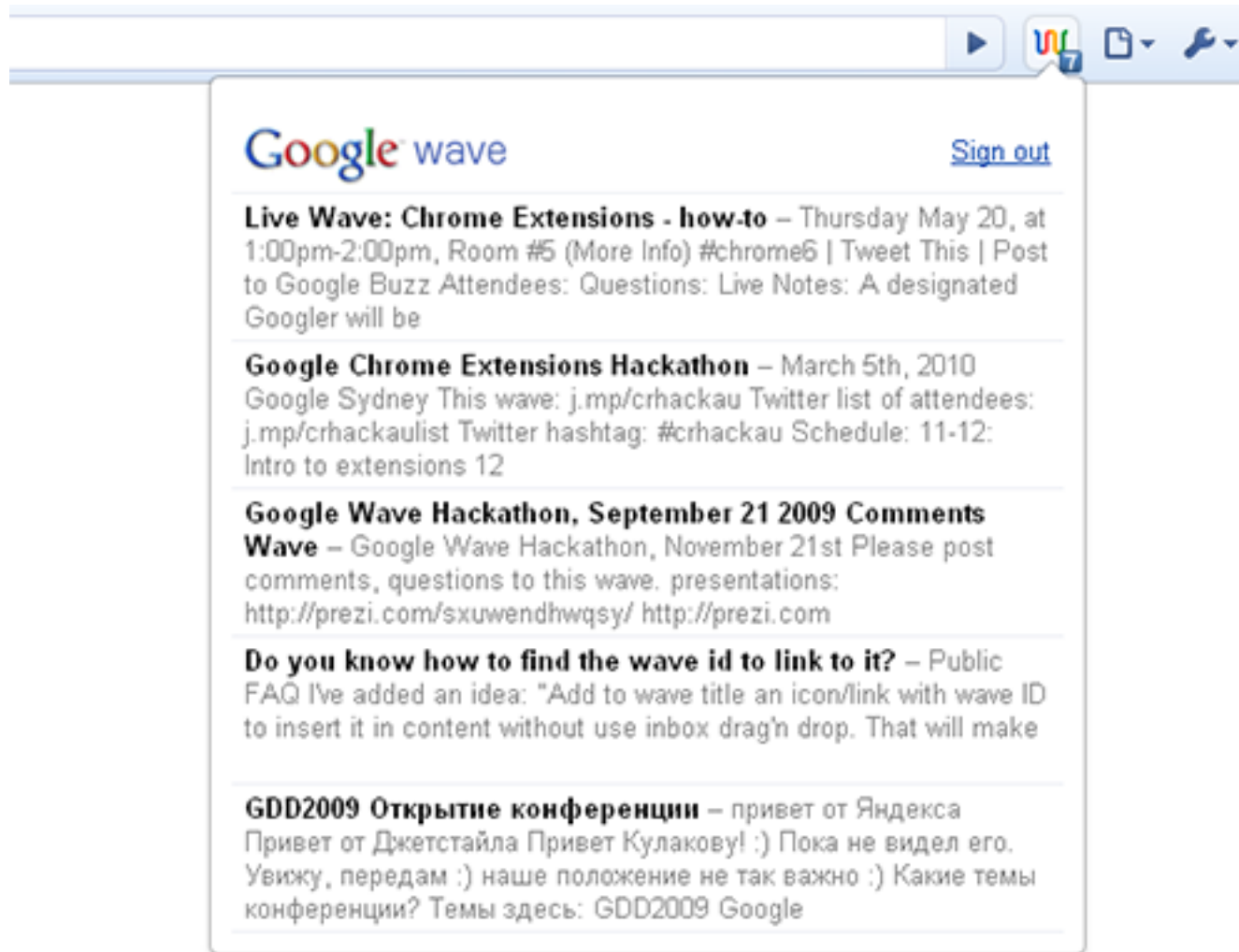
Problem:

- Data tracking
- Item counter
- Item details

Solution:

- Cross-origin XHR
- Browser-action badge
- Popup

Example: Google Wave Notifier



The Detector Pattern

The Detector Pattern

Problem:

The Detector Pattern

Problem:

- Content matching

The Detector Pattern

Problem:

- Content matching
- Match indicator

The Detector Pattern

Problem:

- Content matching
- Match indicator

Solution:

The Detector Pattern

Problem:

- Content matching
- Match indicator

Solution:

- Content script

The Detector Pattern

Problem:

- Content matching
- Match indicator

Solution:

- Content script
- Message passing and page action

Example: Sandwich Detector



HTML5 Integration



Image: [CC BY-SA 2.0 www.flickr.com/photos/75227967@N00/98193355/](https://www.flickr.com/photos/75227967@N00/98193355/)

Features

Features

- `<canvas>`

Features

- `<canvas>`
- `<audio>` and `<video>`

Features

- `<canvas>`
- `<audio>` and `<video>`
- Filters

Features

- `<canvas>`
- `<audio>` and `<video>`
- Filters
- Animation

Features

- `<canvas>`
- `<audio>` and `<video>`
- Filters
- Animation
- Web Storage and Web SQL Database

Features

- `<canvas>`
- `<audio>` and `<video>`
- Filters
- Animation
- Web Storage and Web SQL Database
- Desktop notifications

The Pushier-Notifier Pattern

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Problem:

The Pushier-Notifier Pattern

Problem:

- News or info alerts

The Pushier-Notifier Pattern

Problem:

- News or info alerts
- Alert settings

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Problem:

- News or info alerts
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- Setting persistence

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- Desktop notifications

The Pushier-Notifier Pattern

Problem:

- News or info alerts
- Alert settings
- Setting persistence

Solution:

- Desktop notifications
- Options page

The Pushier-Notifier Pattern

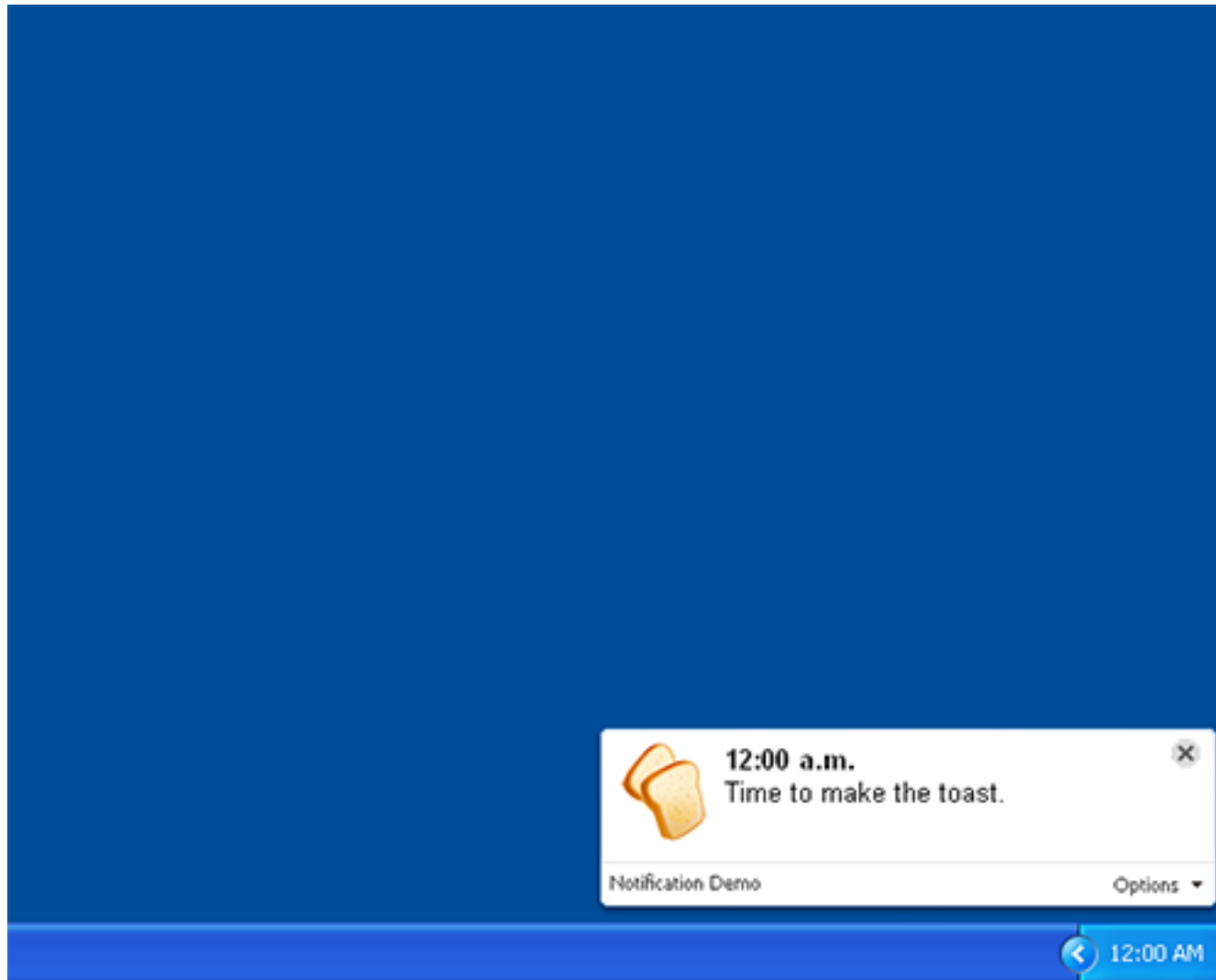
Problem:

- News or info alerts
- Alert settings
- Setting persistence

Solution:

- Desktop notifications
- Options page
- Web Storage

Example: Notification Demo



Experimental APIs

Image: [CC BY 2.0 www.flickr.com/photos/horiavarlan/4273968248/](https://www.flickr.com/photos/horiavarlan/4273968248/)

APIs

APIs

- `chrome.experimental.infobars`

APIs

- `chrome.experimental.infobars`
- `chrome.experimental.contextMenu`

APIs

- `chrome.experimental.infobars`
- `chrome.experimental.contextMenu`
- `chrome.experimental.clipboard`

APIs

- `chrome.experimental.infobars`
- `chrome.experimental.contextMenu`
- `chrome.experimental.clipboard`
- `chrome.experimental.cookies`

APIs

- `chrome.experimental.infobars`
- `chrome.experimental.contextMenu`
- `chrome.experimental.clipboard`
- `chrome.experimental.cookies`
- `chrome.experimental.processes`

Usage

Usage

- Dev channel

Usage

- Dev channel
- `--enable-experimental-extension-apis` flag

Usage

- Dev channel
- `--enable-experimental-extension-apis` flag
- "experimental" permission

The Importer Pattern

The Importer Pattern

Problem:

The Importer Pattern

Problem:

- Content viewing or editing

The Importer Pattern

Problem:

- Content viewing or editing
- New window or tab

The Importer Pattern

Problem:

- Content viewing or editing
- New window or tab

Solution:

The Importer Pattern

Problem:

- Content viewing or editing
- New window or tab

Solution:

- Context menu

The Importer Pattern

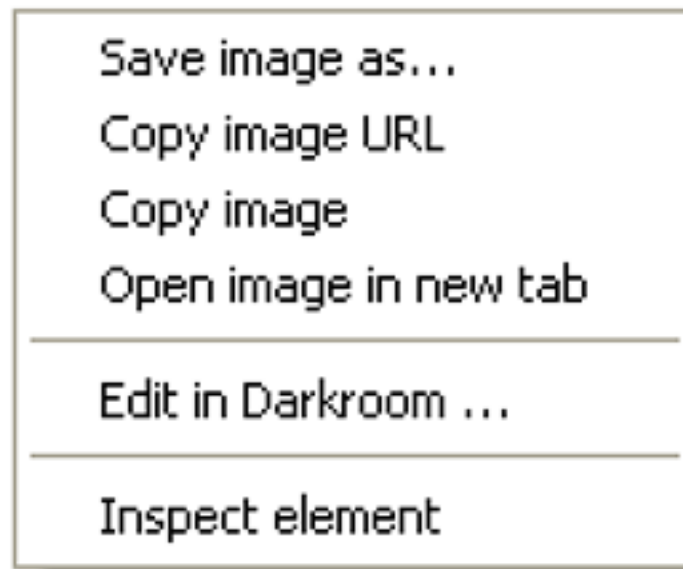
Problem:

- Content viewing or editing
- New window or tab

Solution:

- Context menu
- Windows or tabs API

Example: Edit in Mugtug Darkroom ...



Questions

Image: [CC BY 2.0 www.flickr.com/photos/longo/2684733921/](https://www.flickr.com/photos/longo/2684733921/)

Code

Google Wave Notifier:

- j.mp/wavecrxsrc

Other extensions:

- j.mp/crxsrc

Additional Resources

Docs:

- code.google.com/chrome/extensions/

Discussion group:

- j.mp/crxgroup

Blog:

- blog.chromium.org/



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